Administrator's Guide

RMS

Resource Management Suite® 3.1

Software

AMX Limited Warranty and Disclaimer

AMX Corporation warrants its products to be free of defects in material and workmanship under normal use for three (3) years from the date of purchase from AMX Corporation, with the following exceptions:

- Electroluminescent and LCD Control Panels are warranted for three (3) years, except for the display and touch overlay components that are warranted for a period of one (1) year.
- Disk drive mechanisms, pan/tilt heads, power supplies, and MX Series products are warranted for a period of one (1) year.
- AMX Lighting products are guaranteed to switch on and off any load that is properly connected to our lighting products, as long as the AMX Lighting products are under warranty. AMX Corporation does guarantee the
  control of dimmable loads that are properly connected to our lighting products. The dimming performance or quality cannot be guaranteed due to the random combinations of dimmers, lamps and ballasts or transformers.
- Unless otherwise specified, OEM and custom products are warranted for a period of one (1) year.
- AMX Software is warranted for a period of ninety (90) days.
- Batteries and incandescent lamps are not covered under the warranty.

This warranty extends only to products purchased directly from AMX Corporation or an Authorized AMX Dealer.

All products returned to AMX require a Return Material Authorization (RMA) number. The RMA number is obtained from the AMX RMA Department. The RMA number must be clearly marked on the outside of each box. The RMA is valid for a 30-day period. After the 30-day period the RMA will be cancelled. Any shipments received not consistent with the RMA, or after the RMA is cancelled, will be refused. AMX is not responsible for products returned without a valid RMA number.

AMX Corporation is not liable for any damages caused by its products or for the failure of its products to perform. This includes any lost profits, lost savings, incidental damages, or consequential damages. AMX Corporation is not liable for any claim made by a third party or by an AMX Dealer for a third party.

This limitation of liability applies whether damages are sought, or a claim is made, under this warranty or as a tort claim (including negligence and strict product liability), a contract claim, or any other claim. This limitation of
liability cannot be waived or amended by any person. This limitation of liability will be effective even if AMX Corporation or an authorized representative of AMX Corporation has been advised of the possibility of any such damages. This limitation of liability, however, will not apply to claims for personal injury.

Some states do not allow a limitation of how long an implied warranty last. Some states do not allow the limitation or exclusion of incidental or consequential damages for consumer products. In such states, the limitation or exclusion of the Limited Warranty may not apply. This Limited Warranty gives the owner specific legal rights. The owner may also have other rights that vary from state to state. The owner is advised to consult applicable state laws for full
determination of rights.

EXCEPT AS EXPRESSLY SET FORTH IN THIS WARRANTY, AMX CORPORATION MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. AMX CORPORATION EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED IN THIS LIMITED WARRANTY. ANY IMPLIED WARRANTIES THAT MAY BE IMPOSED BY LAW ARE LIMITED TO THE TERMS OF THIS LIMITED WARRANTY.

Software License and Warranty Agreement

LICENSE GRANT.
AMX grants to Licensee the non-exclusive right to use the AMX Software in the manner described in this License. The AMX Software is licensed, not sold. The AMX Software consists of generally available programming and development software, product documentation, sample applications, tools and utilities, and miscellaneous technical information. Please refer to the README.TXT file on the compact disc or download for further information regarding the components of the AMX Software. The AMX Software is subject to restrictions on distribution described in this License Agreement. YOU MAY NOT LICENSE, RENT, OR LEASE THE AMX SOFTWARE. You may not reverse engineer, decompile, or disassemble the AMX Software.

INTELLECTUAL PROPERTY.
The AMX Software is owned by AMX and is protected by United States copyright laws, patent laws, international treaty provisions, and/or state of Texas trade secret laws. Licensee may make copies of the AMX Software solely for backup or archival purposes. Licensee may not copy the written materials accompanying the AMX Software.

TERMINATION. AMX RESERVES THE RIGHT, IN ITS SOLE DISCRETION, TO TERMINATE THIS LICENSE FOR ANY REASON AND UPON WRITTEN NOTICE TO LICENSEE.
In the event that AMX terminates this License, the Licensee shall return or destroy all originals and copies of the AMX Software to AMX and certify in writing that all originals and copies have been returned or destroyed.

PRE-RELEASE CODE.
Portions of the AMX Software may, from time to time, as identified in the AMX Software, include PRE-RELEASE CODE and such code may not be at the level of performance, compatibility and functionality of the final code. The PRE-RELEASE CODE may not operate correctly and may be substantially modified prior to final release or certain features may not be generally released. AMX is not obligated to make or support any PRE-RELEASE CODE. ALL PRE-RELEASE CODE IS PROVIDED "AS IS" WITH NO WARRANTIES.

LIMITED WARRANTY.
AMX warrants that the AMX Software will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days from the date of receipt. AMX DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE AMX SOFTWARE. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. Any supplements or updates to the AMX SOFTWARE, including without limitation, any (if any) service packs or hot fixes provided to you after the expiration of the ninety (90) day Limited Warranty period are not covered by any warranty or condition, express, implied or statutory.

LICENSEE REMEDIES.
AMX's entire liability and your exclusive remedy shall be repair or replacement of the AMX Software that does not meet AMX's Limited Warranty and which is returned to AMX. This Limited Warranty is void if failure of the AMX Software has resulted from accident, abuse, or misapplication. Any replacement AMX Software will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Outside the United States, these remedies may not available.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES. IN NO EVENT SHALL AMX BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS AMX SOFTWARE, EVEN IF AMX HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES/COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

U.S. GOVERNMENT RESTRICTED RIGHTS. The AMX Software is provided with RESTRICTED RIGHTS. Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of The Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software Restricted Rights at 48 CFR 52.227-19, as applicable.

This Agreement replaces and supercedes all previous AMX Software License Agreements and is governed by the laws of the State of Texas, and all disputes will be resolved in the courts in Collin County, Texas, USA. Should you have any questions concerning this Agreement, or if you desire to contact AMX for any reason, please write: **AMX Corporation, 3000 Research Drive, Richardson, TX 75082.**

Table of Contents

System Requirements 1

Minimum Hardware Requirements 1

Supported Platforms 1 .....

RMS Supported Databases 1

RMS Supported Scheduling Systems 1

RMS Supported Web Browsers 2

RMS SDK Support 2

Additional System Requirements 2

Network Configuration 3

Installation 5

The RMS SDK 5

Upgrading to RMS 3.1 from 3.0 5

Upgrading to RMS 3.1 from RMS 2.2 or earlier 5

Resource Management Suite 3.1 Installation Checklist 7

Hardware System Requirements 7

Server Operating System 7

Additional Software Dependencies 8

Database Platform 9

Database Access 10

Scheduling System 11

Internet Information Services - Virtual Directory 11

RMS Licensing 12

RMS TCP/IP Communications 13

RMS Security Settings 14

SMTP Email Server 15

SNPP Paging Provider 15

SNMP Management Server 16

RMS Logging Options 17
SYSLOG Messaging 18
RMS Reporting Options 18
Example: Redundant Server Setup 19
Conceptualize the RMS Application 23
Licensing 23
Licensing Summary 23
Appointment Management Considerations 24
Messaging and Notification 24
Logging Configuration 24
Security 24
Windows Authentication 25
Enabling Integrated Windows Authentication 26
Vertical Market Support 27
Device Monitoring Framework 29
Device Values 30
Parameter Values 31
Status Types 33
Notification Process 34
Alert Messages 34
Advise Messages 34
What Is New in RMS 3.x 37
Users 37
The RMS Dashboard 37
Rooms 37
Macros 38
Notifications 38
SNMP 38
Redundant Server Support 39

Licensing 39
Doorbell Feature 40
Do Not Disturb Feature 40
Create Ad-Hoc Appointments from Touch Panel 40
Extending Appointments from Touch Panel 40
Ending Appointments Early from Touch Panel 40
Getting Started 41
Running Configuration Wizard 41
Adding NetLinx Systems As Rooms 41
Adding And Configuring Groups 42
Adding Users 42
Adding Notifications 43
Changing The Domain Path for Notifications 43
RMS Administration 45
Sign in Page 45
Administration Page 46
RMS Dashboard Page 49
How do you change modes? 49
Adding Contents 50
Add Contents 50
Restore Contents 50
Imported Web Part Catalog 50
Moving columns 51
Resetting the RMS Dashboard 51
RMS Hotlist 53
Unassigned NetLinx Systems 53
Parameter Needing Attention 55
Viewing a room when appearing in Parameter Needing Attention list 56

Resetting a room when appearing in Parameter Needing Attention list 56
Responding to a room when appearing in Parameter Needing Attention 56
Room Troller Failure 57
System Status Page 59
Viewing System Status information 60
Viewing device information in the System Status page 60
View Devices Page 61
Execute Control Function Page 63
Device Information Page 64
Modify Device Information Page 65
Device Parameter Page 66
Device Parameter History Page 68
Modify Parameter Page 69
Viewing Device parameters 70
Viewing Device Parameter history 70
Deleting Device Parameter history 71
Modifying Device parameters 71
Deleting Device parameters 72
Viewing detailed Device information 72
Modifying Device information 72
Deleting Device information 73
Viewing a Device log 73
Executing a device control function 73
Management Page 75
Manage Groups Page 75
Create New Group Page 76
Create New Group 76
View Group Setting Page 77
View Group Setting 77

Modify Group Setting Page 77
Modify Group Setting 77
Creating a new Group 77
Viewing Group settings 78
Editing a Group 78
Deleting Groups 78
Manage Rooms Page 79
Create New Room Page 80
View Room Setting Page 82
Send Question Page 84
Creating a new Room 84
Editing a Room 85
Deleting Rooms 85
Viewing Room settings 86
Sending a question to a room 86
Manage Users Page 87
Create New User Page 88
Edit User Page 90
Creating a new User 91
Editing Users 91
Deleting Users 92
How do I disable/enable a user? 92
Manage Permissions Page 93
Create New Role Page 94
Edit Role Page 96
Creating a new Role 97
Editing a Role 97
Deleting a role 98
Manage Notifications Page 98
Create New Notifications Page 99
Edit Notification Page 101

Creating a Notification 101
Editing a Notification 102
Deleting a Notification 102
Changing The Domain Path for Notifications 103
Manage Systems Page 104
View System Page 105
Viewing a System 106
Internal Log Export Page 107
Exporting an Internal Log 108
Viewing Exported Internal Logs 108
Deleting Exported Internal Logs 108
Control Functions Page 109
Create Control Function Macro Page 110
Edit Macro Page 111
Schedule Macro Page 111
Control Function Macro Schedules Page 113
Creating a new macro 113
Viewing a macro 114
Executing a macro 114
Deleting a macro 114
Scheduling a macro 115
Viewing a macro schedule 115
Reporting Page 117
System Reports Page 117
Room Reports 118
Help Requests 118
Help Requests Results 119
Help Requests (Detailed) 120
Help Requests (Detailed) Results 121
Residence Usage 122
Residence Usage Results 123

Source Usage 124
Source Usage Results 125
Lamp Hours 126
Lamp Hours Results 128
Transport Run Time 129
Transport Run Time Results 131
Power Reports 132
System Power 132
System Power Results 133
Device Power 134
Device Power Results 135
System Power (Detailed) 136
System Power (Detailed) Results 137
Device Power (Detailed) 138
Device Power (Detailed) Results 139
Quality of Service Reports 140
System Online 140
System Online Results 142
Device Online 143
Device Online Results 145
Device Communications 146
Device Communications Results 148
Device Control Failures 149
Device Control Failures Results 150
Organizer Reports 151
Help Requests 151
Help Requests Results 152
Help Requests (Detailed) 153
Help Requests (Detailed) Results 154
Residence Usage 155
Residence Usage Results 156

Source Usage 157
Source Usage Results 158
Running a System Report 159
Internal Log Report Page 160
Internal Log Entry Page 161
Viewing Log entries 161
Adding notes to Log entries 161
Deleting Log entries 162
Source Usage Page 163
Viewing Source Usage reports 164
Lamp Hours Report Page 164
Viewing Lamp Hours reports 165
Configuration Page 167
Appointment Settings Page 167
Configuring the system storage settings 168
Setting the Appointment master password 168
Configure Internal Log Page 169
Configuring the Internal Log 170
Enabling/Disabling Internal Log 171
Purging the Internal Log 171
Configure Notification Template Page 172
Create New Template Page 173
Viewing a Notification Template 176
Creating a new Notification Template 177
Deleting a Notification Template 177
Copying a Notification Template 177
Prestige Levels Page 178
Editing Prestige Levels 179
Enabling/Disabling Prestige Levels 179
System Licensing Page 180
Checking client licensing information 182

Adding a Client License 182
Removing a Client License 182
Hotlist Settings Page 183
Creating a new Help Response 183
Editing a Help Response 183
Deleting a Help Response 184
Help Page 185
About RMS Application Page 185
Administrator's Guide 185
User's Guide 186
Version Information Page 186
View Readme 186
System Diagnostics 186
Status Page 186
Checking System Status 186
Connections Page 187
Checking RMS connections 187
Restarting Connection Server 187
Resources Page 188
Displaying/Hiding Resource Keys 188
Appending Culture Codes to Strings 189
Displaying the Resource Lookup Table 189
Debugging Page 190
Setting Debug options and debugging the RMS server 190
Sitemap Page 191
RMS Scheduling Page 193
View Schedule Page 193
Day View Page 193
Opening Day view 194
Week View Page 195

Opening Week view 195
Month View Page 196
Opening Month view 196
Add Appointment Page 197
Creating an Appointment 200
Creating an Appointment with an External Scheduler 200
Room Search Page 203
Conducting a room search 204
Help 204
MeetingManager User Page 205
Sign in Page 205
How do you sign in to RMS? 205
Preferences Page 205
Setting the default language 206
Setting the home page 206
Resetting column sorting 206
Setting scheduling view hours 206
User Profile Page 207
Editing your User Profile 208
Changing your User Password 208
Setting User Notification Time Span 208
User Notifications Page 209
Create New Notification Page 209
Creating new User Notifications 211
Sign Out Page 211
Signing Out of RMS 211
RMS Touch Panel Pages 213
RMS Welcome Page 213
RMS Meeting Request Dialog 214
Finding a meeting in a room's schedule 215

Creating a meeting at the Welcome panel 215
Extending a meeting at the Welcome panel 217
Ending a meeting early at the Welcome panel 218
Ringing the doorbell 220
RMS In-room Page 221
Finding a meeting in a room's schedule 222
Creating a meeting at the In-room panel 222
Extending a meeting at the In-room panel 224
Ending a meeting early at the In-room panel 225
Executing a meeting preset 227
Using the room's calendar 227
Setting the meeting to "Do Not Disturb" 228
Placing a Help Request 228
Placing a Service Request 230
Configuration Wizard 231
Welcome 231
Appointment Management/Scheduling System 232
Database 233
Connection 233
Configuration 234
Updates 235
Product Selection 236
Web Services 237
Microsoft IIS Server 237
Virtual Directory 238
Services 239
Register 240
Start 242
Licensing 244
Server Licenses 244
Enter Server Serial Number 245

Manual Authorization 245
Manually authorizing your RMS server 246
Client Licenses 247
OS Permissions 249
Service User 249
Web User 251
System Settings 252
NetLinx 252
Security 253
Administrator 254
Scheduling 255
Appointments 256
SMTP 258
SNPP 260
SNMP 262
Logging 263
Syslog 264
Reporting 265
Time Sync 266
Name & Logo 267
Creating A Custom Logo 268
Finished 269
Scheduling System Plug-ins 271
Scheduling Systems: Microsoft Exchange Plug-in 271
Overview 271
Compatibility Requirements 272
Installation Checklist 273
Scheduling Plug-in Configuration 273
Room Scheduling Configuration 278
Scheduling Systems: Microsoft Outlook Plug-in 280
Overview 280

Compatibility Requirements 280
Installation Checklist 281
Scheduling Plug-in Configuration 282
Room Scheduling Configuration 285
Scheduling Systems: Novell GroupWise Plug-in 287
Overview 287
Compatibility Requirements 287
Installation Checklist 288
Scheduling Plug-in Configuration 288
Room Scheduling Configuration 292
Scheduling Systems: Lotus Notes Plug-in 294
Overview 294
Compatibility Requirements 295
Installation Checklist 295
Scheduling Plug-in Configuration 296
Room Scheduling Configuration 304
Database Wizard 309
Overview 309
Starting the Database Wizard 310
Main Menu 311
Create / Remove Menu 313
Import / Export Menu 314
Create A New Database 315
Remove A Database 317
Importing Data 319
Exporting Data 320
Converting A Database 321
Applying Update Scripts 322
Configuring Connection Settings 323

Appendix A: Service Configuration for Microsoft Exchange 5.5 325

Overview 325

Configuration 325

Appendix B: Configuring Microsoft Exchange Mailbox & Permissions 329

Overview 329

Create a New Exchange Mailbox 329

Configure Exchange Mailbox Permissions 332

Appendix C: Configuring Novell GroupWise Mailbox Proxy Access 337

Overview 337

Configure GroupWise Mailbox Proxy Access 337

Appendix D: Configuring A Local Mail Profile 341

Overview 341

Create a Local Mail Profile 341

Appendix E: Configuring Lotus Notes Database & Permissions 345

Overview 345

Create a New Notes Mailbox 345

Configure Notes Database Permissions 345

Appendix F: Installation Procedure for SQL Server 2005 Express Edition 351

Overview 351

Installation 351

Setup 352

System Requirements

Minimum Hardware Requirements

- Processor: Intel Pentium IV 2.0 GHz
- Memory: 512 MB
- Display: 1024x768 resolution
- Hard Disk: 500 MB available space

Supported Platforms

- Windows 2000 Server (SP4)
- Windows 2003 Server (SP1)

RMS Supported Databases

- Microsoft SQL Server 2005 Express Edition (download available free from Microsoft)
- Microsoft SQL Server 2005 Standard Edition
- Microsoft SQL Server 2005 Enterprise Edition
- Microsoft SQL Server 2000

RMS Supported Scheduling Systems

- Microsoft Exchange Server 2000 (SP3)
- Microsoft Exchange Server 2003 (SP2)
- Microsoft Exchange Server 2007
- Microsoft Outlook 2000 (SP3)
- Microsoft Outlook XP (SP3)
- Microsoft Outlook 2003 (SP2)
- Microsoft Outlook 2007
- Novell GroupWise 6
- Lotus Notes R5/R6

RMS is capable of supporting multiple (up to 12) instances of Scheduling on a single NetLinx Master. If you intend to run multiple instances of Scheduling on a Master, then that Master should be dedicated solely to RMS Scheduling only.

RMS Supported Web Browsers

Windows Platform

- Microsoft Internet Explorer 6
- Microsoft Internet Explorer 7
- Mozilla FireFox 2.0

Macintosh Platform

- Mozilla FireFox 2.0

RMS SDK Support

- All NetLinx hardware platforms
- Touch panel files for G4
- NetLinx modules

Additional System Requirements

- Microsoft .NET Framework 2.0
- Internet Information Services (IIS) 5.0 (*for Windows 2000 servers*)
- Internet Information Services (IIS) 6.0 (*for Windows 2003 servers*)
- Adobe Acrobat Reader 7.0.5 or later
- Microsoft Outlook 2000/XP/2003/2007 (*only needed if RMS is configured to work with a MS Exchange scheduling system*)
- Novell GroupWise Client 6.0/6.5 (*only needed if RMS is configured to work with a Novell GroupWise scheduling system*)
- Lotus Notes R5/R6 Client (*only needed if RMS is configured to work with a Lotus Notes scheduling system*)

Network Configuration

The RMS application is a client/server application where the NetLinx system acts as the client and the RMS application server listens for connections from NetLinx systems. NetLinx and the RMS application server communicate using TCP/IP sockets. In order to establish communication, each NetLinx system must be able to resolve and connect to the RMS application server. This can be accomplished with a variety of Network configurations including local area networks (LAN), wide area networks (WAN), and the Internet.

In order to communicate with the RMS application, a NetLinx system must have the RMS modules added to its programming by a qualified NetLinx programmer. The RMS application module includes the core API and communication stack that allows NetLinx to communicate with the RMS application.

Since each NetLinx system acts as the client, it must be configured to communicate to the RMS application server using the 'SERVER-' command in NetLinx programming. NetLinx can accept either an IP address or a HostName for the server. NetLinx supports DNS so if you are using a HostName, the HostName must be registered with the DNS server that NetLinx has been configured to use. The DNS server configuration will be picked up automatically through DHCP if the DNS servers are registered with the DHCP server. For more information on configuring DNS servers in NetLinx, see the NetLinx master's instruction manual.

Optionally, the server IP or host name can be placed in a file called ServerInfo.txt and placed in the RMS directory of the NetLinx master's file system. If this file is present, the RMS communication module ignores the SERVER- command and uses the address supplied in the file. Enter the IP address or hostname on a single line using a text editor and FTP the file to the NetLinx master. If the RMS directory does not exist, you can create it and place the file in the directory.

By default, NetLinx and the RMS application communicate using TCP/IP port 3839. Port 3839 is registered to AMX Resource Management Suite with IANA (http://www.iana.org/assignments/port-numbers). This can be changed to suit your particular facility, but it must be changed in both the RMS server software and each NetLinx system. In the RMS server, this is accomplished through the Configuration Wizard. In NetLinx, this is accomplished through the 'SERVER-'

command in NetLinx programming. If using the ServerInfo.txt file, append a ":" and the port number to the server IP address or host name.

The RMS application 1.0 used port 9090 for communications. If you are upgrading from MeetingManager 1.0, you may wish to continue to use port 9090. During the upgrade process, you are prompted to change to port 3839 or continue to use port 9090. Port 3839 is the new port going forward and 9090 is not backward compatible. If you change to port 3839, you need to upgrade all NetLinx systems to use the modules from the latest version of the RMS SDK. The RMSEngineMod module uses port 3839 as the default port internally. You can use the old module, MeetingManagerEngineMod, if you add ":3839" to the server command used to configure the server address. You can use port 9090 with all RMS application NetLinx systems.

Once a NetLinx system has been programmed with the RMS modules and the server's IP address or HostName, the NetLinx system automatically connects to the RMS server.

RMS Application Install Checklist	
Is the RMS server's host name registered with your DNS server?	
Yes	• Configure each NetLinx system to point to the correct DNS server and obtain the HostName from the network Administrator to use in the 'SERVER-' command. The DNS server configuration will be picked up automatically through DHCP if the DNS servers are registered with the DHCP server. **Note:** To verify your NetLinx system can resolve the DNS name of the RMS server, connect to the NetLinx master using TELNET and use the PING command to determine if the RMS server DNS name can be resolved.
No	• Determine the IP address of the RMS server from the network Administrator to use in the 'SERVER-' command.
Do you want to use 3839 as the TCP/IP port for communications between NetLinx and the RMS server?	
Yes	• No changes need to be made in either RMS or NetLinx.
No	• Configure the TCP/IP in the RMS server using the Configuration Wizard and supply the new port to the NetLinx programmer to use in the 'SERVER-' command.

Installation

The RMS SDK

The best method of implementing any RMS code supporting an application of the RMS suite is to download the RMS SDK. Within the RMS SDK is a sample RMS CodeCrafter file (you will need to download RMS CodeCrafter from www.amx.com).

Open the RMS CodeCrafter file, then copy and duplicate the devices, modules, and ConnectLinx information to suit your needs. While this approach will clarify your understanding of the RMS code and how it interacts with NetLinx, it is still recommended that you attain certification as a AMX programmer to achieve full understanding.

Upgrading to RMS 3.1 from 3.0

- RMS 3.0 licenses work with RMS 3.1
- The Database Wizard automatically detects an existing RMS 3.0 database and performs the necessary updates for RMS 3.1

Upgrading to RMS 3.1 from RMS 2.2 or earlier

There are changes in the approach to licensing and supported databases.

- Contact AMX Global Customer Service to obtain new RMS 3.1 licenses for both Asset and Scheduling functionality. To obtain an RMS License, please contact AMX at **800-222-0193**, by email at **service@amx.com,** or contact your AMX dealer. Existing licenses will migrate in the following manner:

  1 MeetingManager license becomes 1 Asset license and 1 Scheduling license.

  1 AssetManager license becomes 1 Asset license.

- The Database Wizard automatically migrates the database from a previous RMS database into one of the RMS 3.1 supported database platforms; however, you will need to have one of the RMS 3.1 supported database platforms installed prior to starting the RMS 3.1 installation process.

Knowing these points, you can now proceed to the regular installation process. Use the *Resource Management Suite 3.1 Installation Checklist* section on page 7 to aid your installation.

Resource Management Suite 3.1 Installation Checklist

Hardware System Requirements

Hardware System Requirements		
Does your server hardware meet the minimum requirements for RMS?		**Yes/No**
Processor	Intel Pentium IV 2.0 GHz (x86)	
Memory	512 MB	
Display	1024x768 resolution	
Hard Disk	500 MB available space for RMS application files and database	

Yes to all	Please continue to the next step.
No to any	You must obtain a server that meets these minimum requirements to install RMS.

Server Operating System

Server Operating System	
Do you have a compatible server operating system installed?	**Yes/No**
Windows 2000 Server	
Windows 2003 Server	

Yes	Please continue to the next step.
No	You must obtain a compatible server operating system to install RMS.

Does your server operating system have the latest service packs installed?	**Yes/No**
Windows 2000 Server - Service Pack 4 (current as of 10/02/2006)	
Windows 2003 Server - Service Pack 1 (current as of 10/02/2006)	

Yes	Please continue to the next step.
No	You must obtain and install the latest operating system service packs to install RMS.

Server Operating System (Cont.)	
Does your server operating system have Internet Information Services installed?	**Yes/No**
Windows 2000 Server - Internet Information Services (IIS) 5.0	
Windows 2003 Server - Internet Information Services (IIS) 6.0	

Yes	Please continue to the next step.
No	You must install IIS on your server for RMS to serve web pages. While this component is optional for the Windows Server operating system, it is required by the RMS application. The installer will not continue if this component is not detected.

Do you have an administrative logon account to the server where RMS will be installed?	
Yes	Please continue to the next step.
No	You must obtain such an account, and logon to the server with a user account that has administrative access to the server. RMS is a system level application and requires administrative access to install and configure the RMS services and security settings.

Additional Software Dependencies

Additional Software Dependencies	
Does your server have the Microsoft .NET Framework 2.0 installed?	
Yes	Please continue to the next step.
No	You must obtain and install the Microsoft .NET Framework 2.0 before installing RMS. The installer will not continue if this component is not detected.

Does your server have Adobe Acrobat Reader installed?	
Yes	Please continue to the next step.
No	You must obtain and install Adobe Acrobat Reader to be able to display the RMS help files.

Database Platform

Database Platform	
Do you have a compatible database platform where the RMS database can be installed?	**Yes/No**
Microsoft SQL Server 2000	
Microsoft SQL Server 2005 - Standard Edition	
Microsoft SQL Server 2005 - Enterprise Edition	
Microsoft SQL Server 2005 - Express Edition	

Yes	Please continue to the next step.
No	You must obtain access to or install a compatible database platform for the RMS database. Microsoft SQL Server 2005 Express Edition is a no cost solution for small to medium sized RMS installations. If upgrading from RMS 2.x using an Access database, you can download and install SQL Server 2005 Express Edition for use with RMS 3.1. The RMS 3.1 installation will migrate your existing data from the existing RMS 2.x database to the new RMS 3.1 database. Microsoft SQL Server 2005 Express Edition can be downloaded using this link: http://msdn.microsoft.com/vstudio/express/sql/download/
Note: If installing Microsoft SQL Server 2005 Express Edition, please review *Appendix F: Installation Procedure for SQL Server 2005 Express Edition* section on page 351 of the *RMS Administrator's Guide*. Here you will find the specific information your will need for installation and configuration for Microsoft SQL Server 2005 Express Edition.	

Database Access

Database Access			
Database Server			
Using Windows Authentication?	*Yes*		
	No	**Username:**	
		Password:	
Database Name (Catalog)			**(Default = RMS)**

Database Server	This is the server name or path to the database server. If using Microsoft SQL 2005 Express Edition, this field would also contain the database instance name and be formatted like "server_name\instance_name"
Windows Authentication	If you are using Windows Authentication to access the database server, then no username or password is needed.
Username	If you are not using Windows Authentication, then a username is needed to logon to the database server.
Password	If you are not using Windows Authentication, then a password is needed to logon to the database server.
Database Name	This is the database name to create and use for the RMS system. By default this is named 'RMS'. Database name is also known as "Catalog".

Scheduling System

Scheduling System
RMS supports both an internal scheduling system and interfaces to the following external scheduling systems:
Microsoft Exchange 2000/2003/2007 Server
Microsoft Outlook 2000/ 2003/2007 (stand-alone mode)
Novell GroupWise 6.0/6.5
Lotus Notes R5/R6

Please complete the following information:		
Scheduling System	*Internal Scheduling*	
	External Scheduling	Microsoft Exchange
		Microsoft Outlook
		Novell GroupWise
		Lotus Notes
Note: If interfacing with an External Scheduling System, please review the corresponding section for your scheduling system under the *Scheduling System Plug-ins* section on page 271 of the *RMS Administrator's Guide*. Here you will find the specific information your will need for installation and configuration with the external scheduling system.		
Note: RMS is capable of supporting multiple (up to 12) instances of Scheduling on a single NetLinx Master. If you intend to run multiple instances of Scheduling on a Master, then that Master should be dedicated solely to RMS Scheduling only. See the *RMS Scheduling Page* section on page 193 for details.		

Internet Information Services - Virtual Directory

Internet Information Services - Virtual Directory	
RMS provides a web user interface for the administration and management of the application. The RMS installation will create a new virtual directory in the Windows Internet Information Services web services. During the installation you can specify the virtual directory name used to access RMS. This virtual directory name is used as part of the path in the URL to access the RMS web application. `http://server_name/virtual_directotry`	
Please complete the following information:	
Virtual Directory Name	**(Default = RMS)**

RMS Licensing

RMS Licensing	
RMS can operate with limited functionality in STANDARD edition. However, if you want the full capabilities of RMS you must purchase the PREMIUM edition from AMX. Upon purchasing PREMIUM edition, you will receive a server serial number. This serial number will be needed during the installation to license the RMS server.	
Please complete the following information:	
Server Serial Number	

If your RMS server is behind a firewall or is otherwise unable to connect to AMX and finalize the authorization process, you can call AMX and receive a manual authorization key.	
Authorization Key	

Once the Premium edition of the RMS server is licensed, you must also enter client licenses for the number of rooms you wish to use with RMS for either Asset management, Scheduling, or both.	
Please complete the following information:	
Client Certificate ID	**Authentication Key**

RMS TCP/IP Communications

RMS TCP/IP Communications	
RMS uses TCP/IP communications between the RMS server and the remote NetLinx systems.	
Please complete the following information:	
TCP/IP Server Port Number	**(Default = 3839. This is an IANA registered port number for RMS)**
Does your server have a firewall that will block TCP/IP communication for this port?	
Yes	You will need to create a PINHOLE or exception for TCP/IP communications on the specified TCP/IP port for RMS communications.
No	Please continue to the next step.

Does your network router restrict or block traffic on this TCP/IP port?	
Yes	You will need to create a PINHOLE or exception for TCP/IP communications on the specified TCP/IP port for RMS communications.
No	Please continue to the next step.

RMS Security Settings

<table>
<tr><th colspan="5">RMS Security Settings</th></tr>
<tr><td colspan="5">RMS provides a flexible user account management system.</td></tr>
<tr><td colspan="5">Please complete the following information:</td></tr>
<tr><td rowspan="4">Enable User Account Management</td><td colspan="4">No</td></tr>
<tr><td rowspan="3">Yes</td><td>Allow Anonymous Access:</td><td>Yes</td><td>No</td></tr>
<tr><td>Default Admin Username:</td><td colspan="2">(Default = Admin)</td></tr>
<tr><td>Default Admin Password:</td><td colspan="2"></td></tr>
</table>

Enable User Account Management — If you would like any user that can access the RMS web pages to have full access to all RMS features and functions, then disable user account management.

If you would like restricted user logon RMS web pages where you can manage individual user's access permissions, then enable user account management.

Allow Anonymous Access — If User Account Management is enabled, then you will also have the option to allow or disallow anonymous access to the RMS web pages. If anonymous access is allowed, users will be able to view the scheduling pages in RMS without having to logon with a user account.

Default Admin Username — If User Account Management is enabled, then you must provide a username for the default administrator account.

Default Admin Password — If User Account Management is enabled, then you must provide a password for the default administrator account.

Note: RMS also supports Windows Authentication for authenticating users in the RMS web pages. RMS will automatically detect if your website is configured for Windows Authentication. User account management should be enabled and anonymous access should be disallowed when using Windows Authentication. To learn more, or to configure your system for Windows Authentication, please review the *Windows Authentication* section on page 25 of the *RMS Administrator's Guide*.

SMTP Email Server

SMTP Email Server						
RMS supports Simple Mail Transport Protocol (SMTP) email for all outbound email notifications. In order to receive email notifications, the following SMTP information will be needed.						
Please complete the following information:						
Allow SMTP Messaging	*No*					
	Yes	**SMTP Server Address**				
		SMTP Server Port				**(Default = 25)**
		SMTP Server Requires Authentication	*No*			
			Yes	**Username:**		
				Password		
		SMTP Email Address				
		Friendly Email Name				
		Reply-To Email Address				

SNPP Paging Provider

SNPP Paging Provider			
RMS support Simple Network Paging Protocol (SNPP) outbound electronic alpha/text paging notifications. In order to receive SNPP text pages the following SNPP information will be needed.			
Please complete the following information:			
Enable SNPP Paging	*No*		
	Yes	**SNPP Provider**	Select from the pre-defined list in the RMS Configuration Wizard or add your own SNPP provider information

SNMP Management Server

SNMP Management Server			
RMS supports the Simple Network Management Protocol for extending RMS information to your SNMP management console.			
Please complete the following information:			
Enable SNMP Services	*No*		
	Yes	**SNMP Agent Port**	**(Default = 161)**
		SNMP Community	
		SNMP Trap Community	
		SNMP Trap Recipients	

RMS Logging Options

RMS Logging Options				
RMS supports the logging of information to an internal log in the database and to the Windows Event log.				
Please complete the following information:				
Enable Logging to the Internal Database Log	*No*			
	Yes	**Maximum Number of Log Entries To Retain**	**(Default = 1000)**	
		Delete Log Entries After (Days)	**(Default = 90)**	
Enable Logging To the Windows Event Log	*No*			
	Yes	**Log Informational Messages**	*Yes*	*No*
		Log Warning Messages	*Yes*	*No*
		Log Error Messages	*Yes*	*No*

Maximum Log Entries — If Internal Logging is enabled, you can specify the maximum number of log records to retain for log reporting purposes. The RMS services will automatically purge the oldest log records to maintain a manageable database size.

Delete Log Entries After — If Internal Logging is enabled, you can specify the number of days to retain historical data for log reporting purposes. The RMS services will automatically purge data records that are older than the specified number of days in order to maintain a manageable database size.

SYSLOG Messaging

SYSLOG Messaging			
RMS supports broadcasting SYSLOG messages across the network to a SYSLOG listening server.			
Please complete the following information:			
Enable SYSLOG Messaging	*No*		
	Yes	**SYSLOG Server Address**	
		SYSLOG Server Port	**(Default = 514)**
		SYSLOG Facility ID	Select from listing in RMS Configuration Wizard

RMS Reporting Options

RMS Reporting Options			
RMS can provide historical and statistical reports based on system-collected data using the following configuration settings.			
Please complete the following information:			
Enable Reporting	*No*		
	Yes	**Delete Report Entries After (Days)**	**(Default = 90)**

Delete Report Entries After — If Reporting is enabled, you can specify the number of days to retain historical data for reporting purposes. The RMS services will automatically purge data records that are older than the specified number of days in order to maintain a manageable database size.

Example: Redundant Server Setup

1. One at a time, RMS must be installed on all servers. The servers will share one drive.
2. In the *Cluster Administrators*, add the RMS services as *Generic Services* to the shared group for the cluster.
3. Start with the *RMS Server* service and give it a dependency on the SQL Service running.

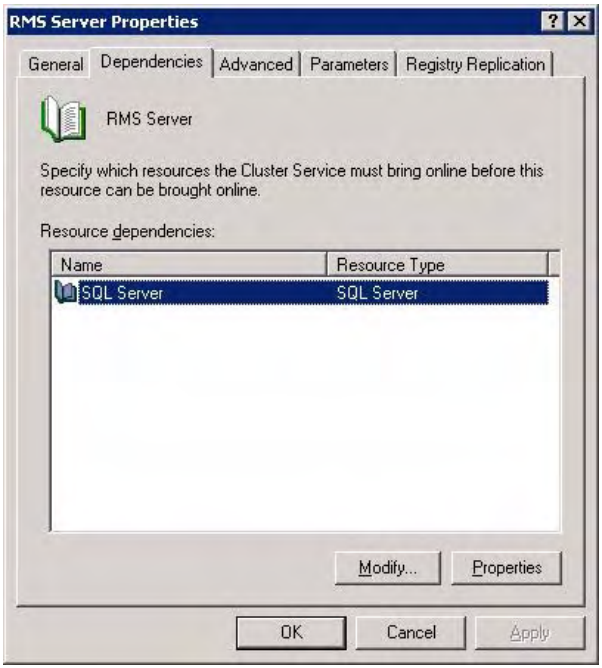


FIG. 1 RMS Server service - Dependencies

4. If not already done, set the parameter to the actual service name, *RMSServer.*

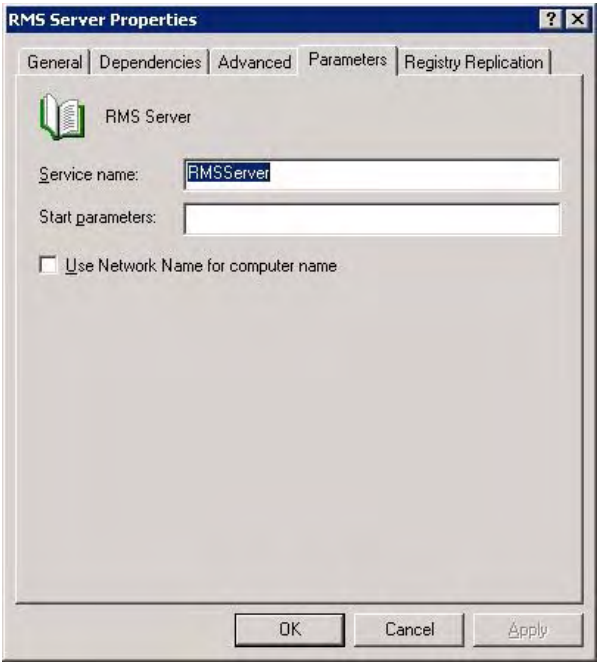


FIG. 2 RMS Server service - Parameters

5. Set the dependency of netlinx, comm, and troller services to the *RMSServer*.

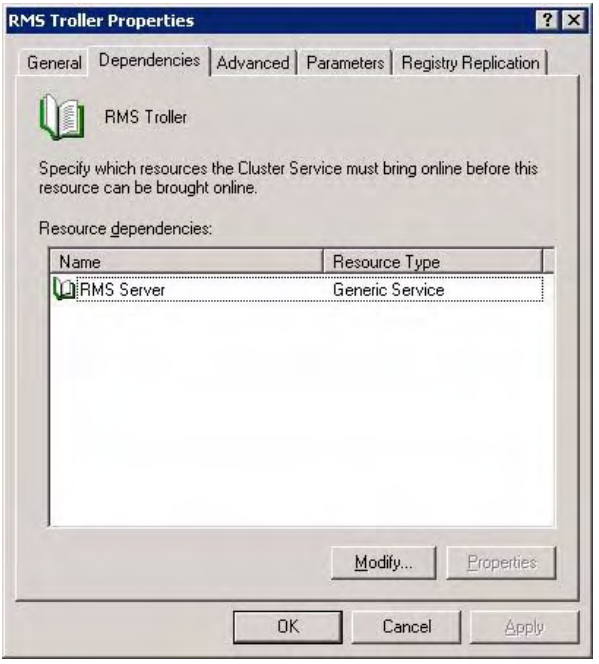


FIG. 3 RMS Troller service - Dependencies

6. The result is 4 services in addition to any other clusters you were already clustering.

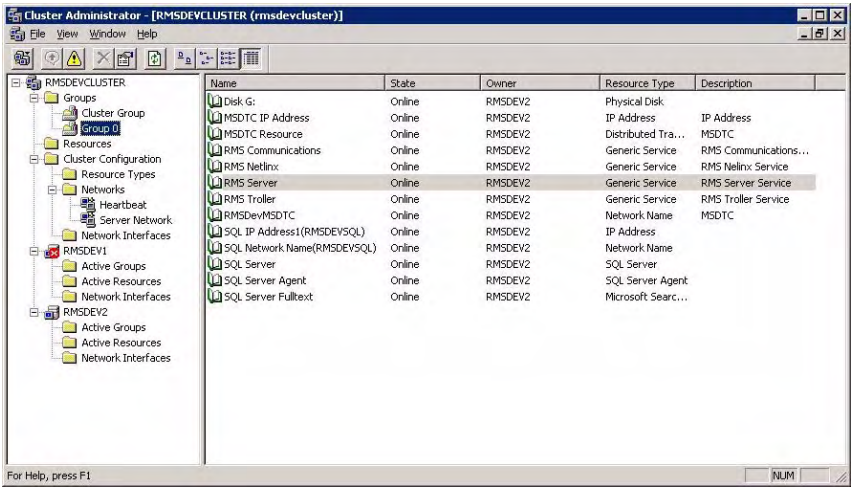


FIG. 4 Cluster Administrator

Conceptualize the RMS Application

It is necessary for you to understand a few points to utilize the RMS application to its fullest potential.

Licensing

RMS provides two key functions, the ability to track devices and provide notifications based on user defined parameters, and schedule the use of rooms within RMS. The RMS application suite supports two types of licenses; Asset and Scheduling.

An Asset license allows you to track devices connected via a NetLinx master system.

A Scheduling license allows you to schedule a room and run presets defined through the NetLinx control system.

Licensing Summary

A summary of the RMS application licensing status can be found both in the Configuration Wizard under the Client Licenses option and in *Configuration* > *Licensing* under the administrative web interface (*System Licensing Page* section on page 180).

Appointment Management Considerations

The RMS application can manage appointments for each room that is marked as schedulable in the RMS application. The RMS application can manage appointments using a built-in scheduler or it can connect to external scheduling systems such as Microsoft Exchange, Novell GroupWise, and Lotus Notes. Managing appointments is an optional feature of the RMS application and it is not required that you configure this item.

Messaging and Notification

The RMS application sends notifications for NetLinx systems problems and appointment confirmations. These notifications rely on external messaging systems such as email to transfer these messages. You will need to configure the RMS application to work with these external systems.

The RMS application can provide Notification through SMTP email and Simple Network Pager Protocol (SNPP). Configuring for SMTP is always recommended if it is available. Configuring for SNPP should be based on whether your users have pagers that support SNPP.

Logging Configuration

The RMS application logs systems problems for long-term storage and historical reporting. The RMS application has a built-in log, but it also supports Windows Event logging and Syslog logging. All logging options can be configured in the Configuration Wizard.

Security

The RMS application can be configured to not require secure logins, require secure logins but allow for anonymous access, or require secure login with no anonymous access allowed. The RMS application users are configured with a username, password, and role that determines their access to the system.

The account management is configured through the Configuration Wizard. Two options, *Use Account Management* and *Allow Anonymous Access* are configured by the Configuration Wizard.

Windows Authentication

The RMS ASP web application supports the use of *Integrated Windows Authentication*. In order to use this feature you must enable *Windows Authentication* for the *RMS Virtual Web Directory* and ensure that *RMS* is enabled for user authentication.

If you are using the scheduling features of RMS, you will need to configure the "dynamicResources" folder in the RMS Virtual directory to allow anonymous access.

The RMS services will automatically detect if the RMS web application is configured for Integrated Windows Authentication and apply the following behavior:

- Administrative Web Pages

  In the RMS administrative web pages, the web application will auto detect the integrated windows username and attempt to authenticate this user account to a user account in the RMS database. If the username is defined in the RMS database, the user is automatically logged on and the user's security permissions are applied to the user's session. If the integrated windows username is not found in the RMS database, a login prompt will be provided to manually log on to the RMS administrative pages.

  If using Integrated Windows Authentication, the user's password in the RMS database need not be synchronized with the actual domain account, this password will not be used in the authentication process.

- User Scheduling Web Pages:

  In the RMS user scheduling web pages, the web application will auto detect the integrated windows username and only allow appointment record modification to appointment records that the user created. Attempting to access or modify an appointment created by another user is restricted.

  The integrated Windows usernames need not be defined in the RMS database. The web application will simply restrict access to appointments based on the appointment's organizer username.

Enabling Integrated Windows Authentication

1. To enable Integrated Windows Authentication, after the RMS product installation and completion of the RMS Configuration Wizard, open the IIS manager from **Control Panel > Administrative Tools > Internet Information Services**. Expand the Web Sites and navigate to the *RMS* web application.
2. Next, right-click on the *RMS* web application and select *Properties*.
3. Select the *Directory Security* tab and click the **Edit** button under *Anonymous access and authentication control*.
4. Ensure the *Anonymous access* option is disabled and the *Integrated Windows authentication* option is enabled.
5. When done, press **OK** to save the configuration.
6. Next, expand the RMS web application virtual directory and find the folder named "*dynamicResources*"
7. Next, right-click on the "*dynamicResources*" folder and select *Properties*.
8. Select the *Directory Security* tab and click the **Edit** button under *Anonymous access and authentication control*.
9. Ensure the *Anonymous access* option is enabled allowing anonymous access. Anonymous access is needed on this folder to allow a room's touch panels to access and display dynamic images associated with meetings. The touch panels are not authenticated in the Windows domain and require unauthenticated access to this folder and its subfolders.
10. When done, press **OK** to save the configuration.
11. After making these changes, you will need to reset the IIS web application to ensure the new settings are applied. Select the *Run* option form the Windows start menu and type *IISRESET* and click **OK**.

Vertical Market Support

The RMS suite now supports the following markets with their own associated application syntax. As you read the documentation, you should recognize references to items such as rooms are also classrooms, exhibits, and venues.

Vertical Market				
	MeetingManager	ClassroomManager	WorshipManager	ExhibitManager
Location	Room	Classroom	Room	Exhibit
Scheduled activity	Appointment	Session	Session	Event
Participants for scheduled activity	Attendees	Participants	Participants	Visitors
Activity scheduler	Organizer	Instructor	Facilitator	Exhibitor
Sequence executed at time of scheduled activity	Preset	Preset	Preset	Sequence
Topic for scheduled activity	Subject Scheduled by	Topic Instructor	Topic Facilitator	Exhibit Details Scheduled by

	VenueManager	IntelligentManager	HomeManager	
Location	Venue	Room	Residence	
Scheduled activity	Event	Meeting	Activity	
Participants for scheduled activity	Participants	Attendees	Guests	
Activity scheduler	Scheduler	Organizer	Scheduler	
Sequence executed at time of scheduled activity	Preset	Preset	Preset	
Topic for scheduled activity	Event Details Booked by	Subject Scheduled by	Event Scheduled by	

Device Monitoring Framework

The RMS application provides device monitoring through a user extensible framework. This framework allows you to customize what devices are monitored, the conditions that indicate a problem or fault, and what type of problem or fault this condition represents. The RMS application generates notifications when a fault condition occurs, as determined by the notification configuration.

Each room has one or more monitored devices. Each device can be a physical device, such as a video projector, or a logical device, like the RMS application software. However, each monitored device must be associated with a NetLinx-connected device. In the case of a video projector, this device would be the IR card, Serial Card or IP Socket used to communicate with the projector. The RMS application software is associated with the NetLinx master itself.

Each monitored device has one or more device parameters that represent monitored items. For instance, monitoring lamp hours of a video projector is accomplished through a "Lamp Hours" parameter that belongs to the "Video Projector" device. All parameters must be associated with a device.

In order to monitor a device, the NetLinx system must register the device and one or more parameters with the RMS application. For instance, monitoring of Lamp Hours of the Video Projector is only available if the NetLinx system has added the appropriate code. In many cases, this is as simple as adding an RMS application support module.

Device Values

Each monitored device has a set of values used in its description. These values are supplied when the device is registered and consist of the following:

Device Values	
Device Number	This is the device number of the device, as defined in the NetLinx program. Devices are tracked by Device ID so this value must be unique within the devices of a given room. For instance, you can have multiple devices with a Device ID of "1:1:0", as long as there is only one device per room with that particular Device ID.
Name	This is the name of device. This name is displayed on the administrator's console and readily identifies the device.
Manufacturer	This is the manufacturer of the device. If this value is not supplied during registration, the manufacturer of the NetLinx-connected device will be used.
Model	This is the model number of the device. If this value is not supplied during registration, the model name of the NetLinx-connected device will be used.
Device Type	The device type of the NetLinx-connected device, e.g., "NI-2000" or "NXP-TPI/4 Touch Panel". This is available for Axcess and NetLinx devices. Information is registered automatically by the RMS application.
Serial Number	This is the serial number of the NetLinx-connected Device and is only available for NetLinx devices.. This information is registered automatically by the RMS application.
Firmware Version	This is the firmware version of the NetLinx-connected device and is only available for NetLinx devices.. This information is registered automatically by the RMS application.
Address and Address Type	This is the physical address and address type for the NetLinx-connected device. This information describes how the device is connected to the NetLinx master. A device connected via ICSNet will display "ICSNet" for the address type and the hardware's network address for the address. A device connected via IP will display "TCP/IP" for the address type and the IP address for the address. Axcess devices will display "AXLink" for both values. This information may be useful for diagnosing device connectivity problems. This information is registered automatically by the RMS application.

Parameter Values

Each parameter has a set of values used to determine what conditions indicate a problem and what type of problem this condition represents. These values are supplied when the parameter is registered and consist of the following:

Parameter Values	
Name	This is the name of parameter. This name is displayed on the RMS application console and readily identifies the parameter. Parameters are tracked by name so this name must be unique within the parameters of a given device. For instance, you can have multiple "Lamp Hours" parameters as long as there is only one "Lamp Hours" parameter per monitored device.
Parameter Type	This indicates if the value is a number or a string. This information is used to determine how to perform certain operation, such as addition and comparisons between the new and threshold values. For instance, comparing "10" and "2" as strings results in "10" less than "2" but comparing them as numbers results in "2" less than "10".
Value and Units	This is the current value of the parameter. Units are appended to the value when displayed in the web console.
Threshold Value and Comparison Operator	The threshold value is the value for which this parameter is considered to indicate a problem or fault. The comparison operator is used to detect when the value changes from the un-faulted to the faulted condition. The comparison operators "Less Than", "Less Than or Equal To", "Greater Than", "Greater Than or Equal To", "Equal To", and "Not Equal To" can be used for string and number parameters. The comparison operators "Contains" and "Does Not Contain" are primarily used for string parameters. For example, "Lamp Hours" might have a threshold value of 1000 and any value over this would require maintenance. The comparison operator would then be "Greater Than". When this parameter changes from a value that is not greater than 1000 to a value that is greater than 1000, the fault status is set. When the value changes from a value greater than 1000 to a value not greater than 1000, the fault status is cleared. These values are supplied during registration, but can be modified by the administrator from the RMS application console.

Parameter Values	
Status Type	The status represents the type of problem a faulted condition represents. Status Types include "Help Request", "Maintenance Request", "Room Communication Error", "Control System Error", "Network Error", "Security", and "Equipment Usage." For example, when "Lamp Hours" changes from an un-faulted (not greater than 1000) to a faulted (greater than 1000), this change represents a "Maintenance Request" status that requires an AV technician to repair the equipment. If the "Device Online" parameter changes from "Online" to "Offline", this change could represent a "Security" or "Control System Error" status. These values are supplied during registration, but can be modified by the administrator from the RMS application console.
Reset Flag and Reset Value	These values determine if and how the parameter can be reset from the RMS application console. If the Reset Flag is set, then the administrator can reset the value remotely. When the administrator selects "Reset" from the console, the Reset Value is copied to the Value and the faulted condition is cleared. These values are useful for parameters such as VCR "Run Time" which would be manually reset when the VCR is cleaned.
Minimum and Maximum Values	These values are used to restrict the range of the threshold and reset values that the administrator can enter on the RMS application console. These values would be used when the parameter represents a value with a bounded range, such as a Volume Level.
Enumeration List	This value is used to restrict the range of the threshold and reset values that the administrator can enter on the RMS application console. This value would be used when the parameter represents a value with a bounded list, Power On and Power Off.

All parameters must be registered by the NetLinx system. The administrator cannot add parameters from the RMS application console. The administrator can modify Threshold Value, Comparison Operator, and Status Type for any parameter. This provides the administrator with the ability to set their own threshold and re-classify messages based on their facility. For instance, an administrator can set the Video projector's "Lamp Hours" threshold to the expected lamp life of a newly replaced lamp or change the "Device Communicating" parameter from a "Control System Error" to a "Security" status if the projector is in danger of being stolen.

Status Types

The RMS application supports the following status types for device monitoring: "Help Request", "Maintenance Request", "Room Communication Error", "Control System Error", "Network Error", "Security", and "Equipment Usage."

While there are no firm rules for what these status types mean and how they are used, AMX provides the following description of each status type and recommends that your usage is consistent with these descriptions.

Status Types	
Help Request	A user generated help request such as a help button on the touch panel.
Maintenance Request	A user or monitored equipment generated maintenance request. Maintenance issues would include items that require a technician to visit the room.
Room Communication Error	A loss of communication between the room and the RMS application server.
Control System Error	Any error that represents a control system error, such as a missing device or loss of communication with a device.
Network Error	Any network related error. These would most commonly be associated with loss of communication with devices that communicate via IP.
Security	Any security related issue. It might be appropriate to classify issues that might normally be classified as Control System or Network errors as Security issues instead. This might include a touch panel going offline or loss of communication with a projector depending on the physical security of these devices.
Equipment Usage	Any issue that does not require repair or maintenance and that is mainly used for status.

Notification Process

As NetLinx sends parameter updates to the RMS server, the RMS server checks to see if the parameter's threshold value has been reached. This comparison is made by checking the previous value of the parameter against the threshold and by checking the new version of the parameter against the threshold using the threshold comparison operator. If the comparison for the old value is False and the comparison for the new value is True, then the parameter triggers an Alert message. If the comparison for the old value is True and the comparison for the new value is False, then the parameter triggers an Advise message. Therefore an Alert message is generated when a parameter reaches its threshold and an Advise message is generated when a parameter returns to its normal operating range.

Alert Messages

When an Alert message occurs, the RMS server first checks to see if the message should be logged to the various log services. A message is created for each log service using the Log Text of the parameter's Alert template, or the default template if a custom template has not been assigned. Next, the RMS server checks for any notifications in the Notification List matching the group, room and status type for the parameter and dispatches any messages via SMTP or SNPP as needed using the appropriate text from the template assigned to the parameter.

Advise Messages

When an Advise message occurs, the RMS server first checks to see if the parameter is configured for sending Advise messages. If not, no messages are sent and no Log entries are created. If the parameter has been configured for Advise messages, the message is logged and dispatched via SMTP an SNPP as described above. However, the Advise template assigned to the parameter, or the default Advise template if no template has been assigned to the parameter, is used to generate the text for the log entries and messages.

For instance, if the previous value for Projector Lamp Hours is 999 and the new value is 1001 and the threshold is set to 1000 and the threshold operator is set as "Greater Than", the RMS server checks to see if the previous value compared to the threshold, i.e. 999 is Greater than 1000 is False, has a different result than the new value compared to the threshold, i.e. 1001 is Greater than 1000 is True. This

change results in an Alert message being logged using the RMS logging settings. Also, a message is sent to all users registers for a notification matching the parameters group, room, and status type.

If the Lamp Hours changes from 1001 to 999, the RMS server triggers an Advise message. If the parameter is configured to send Advise messages, the message is sent to the log and to all users registered for a notification matching the parameters group, room, and status type.

What Is New in RMS 3.x

Perhaps you have already noticed just how smooth RMS 3.1 looks but there is so much more on the inside you need to see. You are going to like the features we have added to user support, notifications, application navigation, security, and control macros to name a few.

Users

Users can now be grouped into roles, and system permissions can then be assigned to roles rather than just to the individual. One such system permission a new user role might encounter is appointment access. Appointments viewable within the scheduler can be enabled with limited viewing. Further, notifications generated by RMS can not only be directed to specific users, but also to roles.

See Also...

Manage Users Page section on page 87

Manage Permissions Page section on page 93

RMS Scheduling Page section on page 193

The RMS Dashboard

In addition to the navigation menu, the Dashboard is comprised of 2 columns, arranged and populated by user defined information.

See Also...

RMS Dashboard Page section on page 49

Rooms

It is no longer necessary to have a NetLinx master to create a room within the RMS applications. For the purposes of scheduling a meeting it may be necessary to only track its availability. Conversely, a device closet requires no scheduling support but it is necessary to monitor devices; this room would require a NetLinx master.

See Also...

Manage Rooms Page section on page 79

Macros

The RMS application allows you to create control function macros that can be assigned to rooms and groups and scheduled to execute either manually, or at specific times.

See Also...

Control Functions Page section on page 109

Notifications

You will notice when editing notification templates that you can now create these notifications using an HTML editor.

See Also...

Manage Notifications Page section on page 98

SNMP

The RMS server now supports SNMP.

SNMP (Simple Network Management Protocol) - The network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, manage configurations, and gather statistics on performance and security issues.

When enabled, RMS generates SNMP traps that can then be collected, monitored, and filtered by an SNMP management station, e.g., NimBUS from Nimsoft. The management station is the final component in the SNMP architecture. It functions as the equivalent of a client in the client-server architecture. It issues requests for management operations on behalf of an administrator or application and receives traps from agents as well.

Redundant Server Support

RMS is now compatible with redundant server arrangements or clustering. In a clustered environment, multiple servers (two or more) operate as a single network server. Failure of one of the network servers in the cluster will go unnoticed because the remaining servers in the cluster assume the work performed by that failed network server.

FIG. 5 is an example of the server arrangement utilized by AMX for the RMS installation. With two available servers, run Microsoft's® Cluster Wizard application; the result is a shared drive between the two servers. AMX then installed RMS on the shared drive.

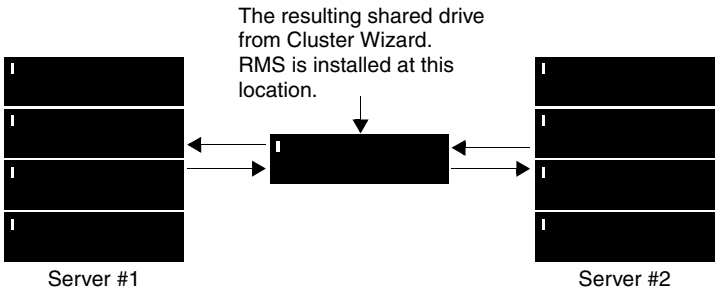


FIG. 5 AMX's Redundant Server Arrangement

See Also...

Microsoft® TechNet, keywords *Creating a Cluster.*

Licensing

RMS no longer requires a physical hardware dongle for licensing. A software serial number is provided with your purchase of RMS Premium Edition and you must enter this serial number on the licensing step of the RMS Configuration Wizard.

Doorbell Feature

The Doorbell allows a person to press a button on the external G4 welcome panel and trigger a sound and/or a popup on the panel inside the room to let the meeting know that there is someone outside the room needing attention.

Do Not Disturb Feature

Controlled from the G4 touch panel inside a room, the Do Not Disturb feature is a notification displayed on the external G4 welcome panel indicating the meeting currently in session should not be interrupted.

Create Ad-Hoc Appointments from Touch Panel

Allows you to create an appointment in an unused meeting room. When used in conjunction with Microsoft Exchange, the ad-hoc appointment is also created in the Exchange mailbox. Please note this feature is supported for use with the internal RMS scheduling system and with a Microsoft Exchange scheduling system.

Extending Appointments from Touch Panel

RMS communicates with the internal or external scheduling system, checks to see if admissible and, updates the appointment record with the extended end time. When used in conjunction with Microsoft Exchange, the extended appointment time is also updated in the Exchange mailbox. Please note this feature is supported for use with the internal RMS scheduling system or with a Microsoft Exchange scheduling system.

Ending Appointments Early from Touch Panel

RMS communicates with the internal or external scheduling system and updates the appointment record with the early end time and makes the room available on the schedule. When used in conjunction with Microsoft Exchange, the ended appointment time is updated in the Exchange mailbox. Please note this feature is supported for use with the internal RMS scheduling system or with a Microsoft Exchange scheduling system.

Getting Started

Running Configuration Wizard

The Configuration Wizard runs during your initial installation of the RMS application. Thereafter, to access the wizard click on the **Start** button, select *Programs, AMX Resource Management Suite*, and select *RMS Configuration Wizard.* For more information concerning the RMS Configuration Wizard, consult the *Configuration Wizard* section on page 231.

Adding NetLinx Systems As Rooms

All NetLinx systems in the RMS application must be associated with a room to enabled equipment monitoring. When new NetLinx systems connect to the RMS application, they automatically show up in the Hot List and can be added as a room directly from the Hot List.

1. Click on *Hot List* in the navigation menu.
2. Unassigned systems are listed at the bottom of the page. Click the *Add Room* link for the NetLinx system you wish to add.
3. The next screen is the *Create New Room Page*. The room information is provided by NetLinx but in the event it is not present, you must enter the information. The room scheduling settings are set to **Yes** by default. If you are using an external scheduling system you must click **Configure** to set it. The room properties are set by the server settings.
4. After all information has been provided, click **Save**.

For more information read the *Creating a new Room* section on page 84.

Adding And Configuring Groups

Rooms are displayed in a tree view based on these groups

Please note:

- A group can contain either rooms or sub groups, but never both.

1. To add a group, first select *Management* > *Groups* under *Administration* from the navigation list.
2. Then click *Create New Group*; this launches the *Create New Group Page*.
3. Enter a group name. Select if it is a group of groups or a group of rooms. If it is a group of groups, select **parent group** if any. If it is a group of rooms, select **parent** and add the desired rooms to the group.
4. Click **Save** to save, **Cancel** to cancel.

For more information, read the *Create New Group* section on page 76.

Adding Users

A user must be in place in order for the RMS application to send notifications. In addition, the concept of users is also used to control access to the system. Once a user has been created, notifications can be assigned.

1. Select *Management* > *Users* under *Administration* in the navigation menu.
2. Click the *Create New User*; this launches the *Create New User Page*.
3. First Name, password, and at least one email is required. All other information is optional but these are the methods by which the RMS application will send notifications to that user.

For more information, read the *Creating a new User* section on page 91.

Adding Notifications

Once a user has been created, notifications can be assigned.

1. Click *Management* > *Notifications* under *Administration* in the navigation menu.
2. Click the *Create New Notification*; this launches the *Create New Notifications Page*.
3. Click **Select** for the *Group.* Select the Group from the list and click **Select**.
4. Click **Select** for the *Room.* Select the Room from the list and click **Select**.
5. Click on the drop-down list to select the type of notification to be sent.
6. Click on the drop-down list to select the user or user role intended to receive the notification.
7. Click **Save**.

For more information, read the *Creating a Notification* section on page 101.

Changing The Domain Path for Notifications

By default, when a notification is sent out the link does not utilize the fully qualified domain name. You can change the domain path such that those outside of the immediate network can use the link. To change the host name:

1. Stop all RMS services.
2. Run C:\Program Files\ AMX Resource Management Suite\Scripts\RMS Hostname.vbs
3. Click **Yes**.
4. Enter the new hostname, e.g., rms.your-domain.com
5. Click **OK**.
6. Restart RMS services.

RMS Administration

All navigation is done via the menu located on the left of the screen. Categories are in bold with their corresponding menu options indented beneath them.

Sign in Page

The *Sign In* page is the initial page of all RMS applications. Access and viewable areas are dictated by your user rights.

How do you sign in to RMS?

- To sign in, enter username and password and click the **Sign In** button.

Administration Page

The *Administration Page* is a menu listing of the following Administrator menu items:

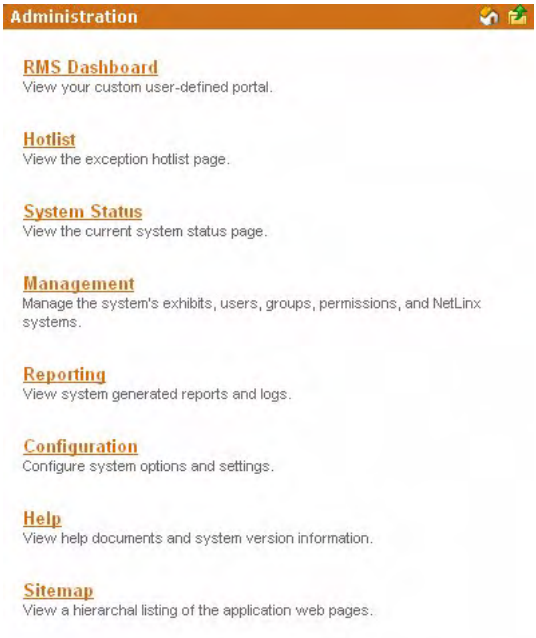


FIG. 6 RMS Administration Page

- **RMS Dashboard**
  View your custom user-defined portal.
- **Hotlist**
  View the exception hotlist page.
- **System Status**
  View the current system status page.
- **Management**
  Manage the system's rooms, users, groups, permissions, and NetLinx systems.
- **Reporting**
  View system generated reports and logs.

- **Configuration**
  Configure system options and settings.
- **Control Functions**
  Create and Manage Control Function Macros.
- **Help**
  View help documents and system version information.
- **Sitemap**
  View a hierarchal listing of the application's web pages.

RMS Dashboard Page

The RMS Dashboard page is the initial page viewed when you log into the RMS application. In addition to the navigation menu, the Dashboard is comprised of 2 columns, arranged and populated by user defined information.

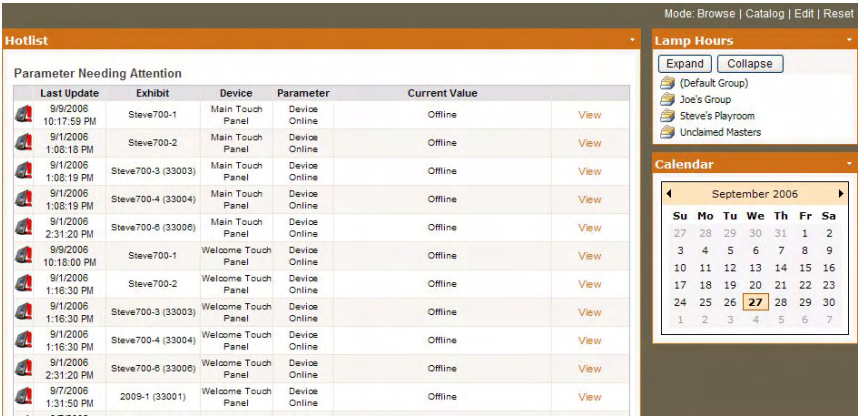


FIG. 7 RMS Dashboard Page

By default the RMS Dashboard contains the Hotlist (*RMS Hotlist* section on page 53), Calendar, Lamp Hours (*Lamp Hours Report Page* section on page 164) and Source Usage (*Source Usage Page* section on page 163).

How do you change modes?

The mode selection links are located at the top right of the RMS Dashboard. Change modes by clicking one of the following:

- **Browse** - The default mode for the RMS Dashboard.
- **Catalog** - Add items to the RMS Dashboard.
- **Edit** - Move RMS Dashboard items around the page.

Adding Contents

To add a content item to the RMS Dashboard:

1. Click the RMS Dashboard link in the menu on the left of the RMS application.
2. Click *Catalog* in the modes on the top right of the page.
3. Select one of the links, *Add Contents, Restore Contents* or *Imported Web Part Catalog*.

Add Contents

The *Add Contents* section is a list of predefined Web Part definition files.

1. Place a check in the box next to the items you want to add to the Dashboard.

Select the column within which you want the content displayed.

2. Click **Add**.
3. Click **Close**.

Restore Contents

The *Restore Contents* section is a collection of Web Part definition files that have been previously removed from the Dashboard.

1. Place a check in the box next to the items you want to restore to the Dashboard.
2. Select the column within which you want the content displayed.
3. Click **Add**.
4. Click **Close**.

Imported Web Part Catalog

A Web Part catalog is a library of Web Part definition (.dwp) files that you can import into the RMS Dashboard.

See http://www.microsoft.com/technet/prodtechnol/sppt/sharepoint/reskit/part5/c22spprk.mspx for more information.

1. Type a file name (.dwp) or click **Browse** to locate a Web Part file.
2. Click **Upload**.

3. Select the column within which you want the content displayed.
4. Click **Add**.
5. Click **Close**.

Moving columns

Contents contained in either the Center or Right column can be moved up, down and to the other column on the Dashboard page.

To move a content item in the RMS Dashboard (Microsoft IE):

1. Click the RMS Dashboard link in the menu on the left of the RMS application.
2. Click either *Catalog* or *Edit* in the modes on the top right of the page.
3. Click, hold and drag the top of the content item to be moved.
4. Drag to a new location; the insertion point is indicated by a blue horizontal cursor.
5. Click *Browse* in the modes on the top right of the page when you are done.

To move a content item in the RMS Dashboard (FireFox):

1. Click the RMS Dashboard link in the menu on the left of the RMS application.
2. Click either *Catalog* or *Edit* in the modes on the top right of the page.
3. Click the view's menu item *Edit*.
4. In *Editor Zone*, choose *Zone* and *Zone Index* to reposition the views.
5. Click *Browse* in the modes on the top right of the page when you are done.

Resetting the RMS Dashboard

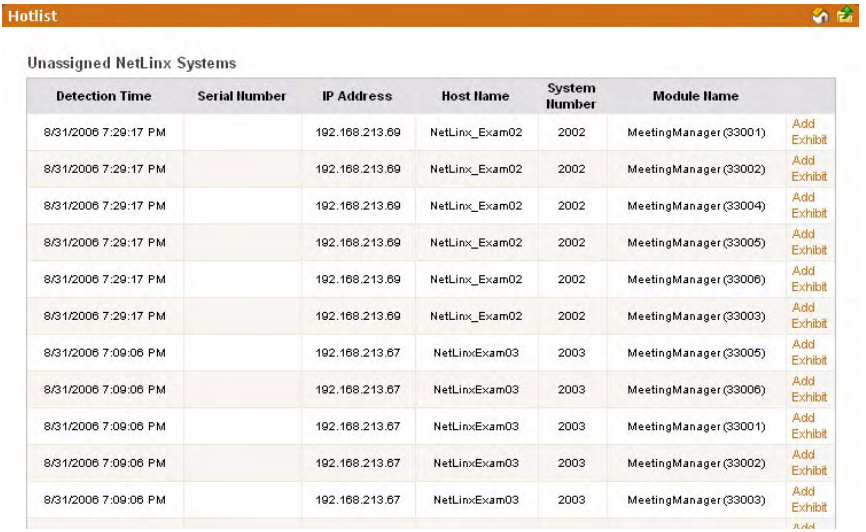
To return the RMS Dashboard to the default contents and settings:

1. Click the RMS Dashboard link in the menu on the left of the RMS application.
2. Click *Reset* in the modes on the top right of the page.

RMS Hotlist

The Hot List is the main view of the exception-based reporting system. All items provide a link to resolve that particular item.

Unassigned NetLinx Systems


Hotlist

Unassigned NetLinx Systems

Detection Time	Serial Number	IP Address	Host Name	System Number	Module Name	
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33001)	Add Exhibit
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33002)	Add Exhibit
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33004)	Add Exhibit
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33005)	Add Exhibit
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33006)	Add Exhibit
8/31/2006 7:29:17 PM		192.168.213.69	NetLinx_Exam02	2002	MeetingManager (33003)	Add Exhibit
8/31/2006 7:09:06 PM		192.168.213.67	NetLinxExam03	2003	MeetingManager (33005)	Add Exhibit
8/31/2006 7:09:06 PM		192.168.213.67	NetLinxExam03	2003	MeetingManager (33006)	Add Exhibit
8/31/2006 7:09:06 PM		192.168.213.67	NetLinxExam03	2003	MeetingManager (33001)	Add Exhibit
8/31/2006 7:09:06 PM		192.168.213.67	NetLinxExam03	2003	MeetingManager (33002)	Add Exhibit
8/31/2006 7:09:06 PM		192.168.213.67	NetLinxExam03	2003	MeetingManager (33003)	Add Exhibit

FIG. 8 Unassigned NetLinx Systems

The Hot List displays any new NetLinx systems that have connected to the RMS application.

When a new NetLinx system connects to the RMS application, it displays the following information and options:

New NetLinx Systems	
Detection Time	The date, hour, minute and second the RMS server discovered the NetLinx system.
Serial Number	Serial Number associated with the room.
IP Address	IP Address associated with the room.
Host Name	Host Name associated with the room.
System Number	This is the system number of the NetLinx master. The system number is used in master-to-master configuration.
Module Name	Module Name associated with the room.
Add Room	The *Add Room* link opens the *Create New Room Page* section on page 80.

See Also:

Create New Room Page section on page 80 - allows you to add rooms to RMS applications, monitor and schedule. Some information is provided by the NetLinx master when discovered by the RMS application

Creating a new Room section on page 84 - upon initial discovery of a NetLinx master you have the option of adding that room to your list of monitored resources.

Parameter Needing Attention

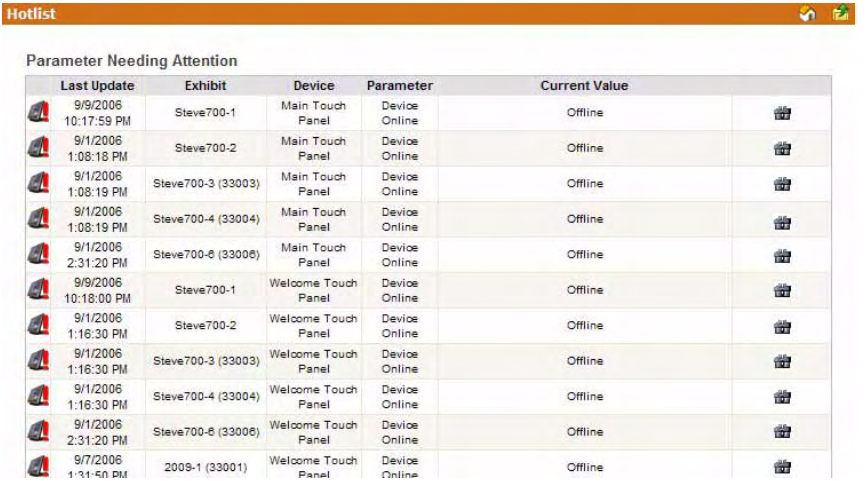


FIG. 9 Parameter Needing Attention Section

Any issues that need attention in the RMS application are displayed on the Hot List. If no issues need attention, no items are displayed in the Hot List. The HotList checks the RMS server for updates behind the scenes and the page is only refreshed if new HotList content is available.

When an item needs attention, such as a help request, the item will be displayed with the following information and options:

Parameter Needing Attention	
Last Update	Date and time of last system update
Room	Name of room where problem has occurred
Device	The name of the device with which the problem is associated
Parameter	The name of the parameter that requires attention
Current Value	Value of the parameter that requires attention
Reset	Reset the parameter to the default value.
View	View room's device list. (*View Devices Page*)

Viewing a room when appearing in Parameter Needing Attention list

The RMS application maintains a device list for each room and the status of each device listed in that room.

1. In the Hot List page, select *View* next to parameter needing attention. This launches the room's device view page.
2. Click **Expand All** to display all system status settings. Properly behaving parameters are indicated with a green check mark and any offending parameters are indicated with a red X.
3. Select *View* for the device parameter needing attention to view the Parameter Settings.

Resetting a room when appearing in Parameter Needing Attention list

If a notification has been set for a device it is necessary to reset it in the Hot List.

1. Select the *Hot List* from the menu on the left side of the RMS application page.
2. Select *Reset* for the offending parameter.

Responding to a room when appearing in Parameter Needing Attention

1. Select the *Hot List* from the menu on the left side of the RMS application page.
2. Select *Respond* to launch the *Send Response* page.
3. Select either a pre-defined response from the drop down menu or type a response in the text field provided.
4. Click **Send**.

Room Troller Failure

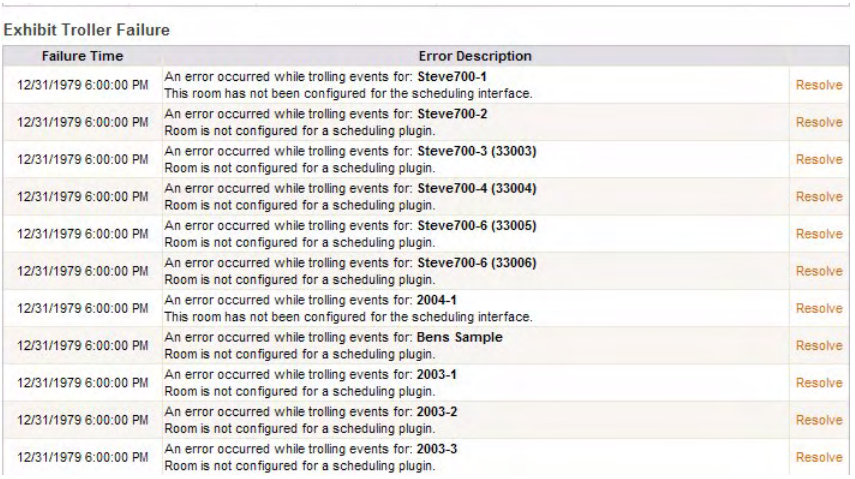


Exhibit Troller Failure

Failure Time	Error Description	
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-1** This room has not been configured for the scheduling interface.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-2** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-3 (33003)** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-4 (33004)** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-6 (33005)** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Steve700-6 (33006)** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **2004-1** This room has not been configured for the scheduling interface.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **Bens Sample** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **2003-1** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **2003-2** Room is not configured for a scheduling plugin.	Resolve
12/31/1979 6:00:00 PM	An error occurred while trolling events for: **2003-3** Room is not configured for a scheduling plugin.	Resolve

FIG. 10 Room Troller Failure Section

Troller failure occurs when the internal scheduling system has failed to attach to the scheduling system mailbox/account and synchronize appointments for the listed room.

Room Troller Failure	
Failure Time	The time stamp from the server when the Troller Failure was detected.
Error Description	What error occurred and in which room.
Resolve	Link to the *View Room Setting Page*. Check the scheduling plug-in mailbox configuration for this room.

System Status Page

This screen list allows you to view the status of all rooms on a single screen.

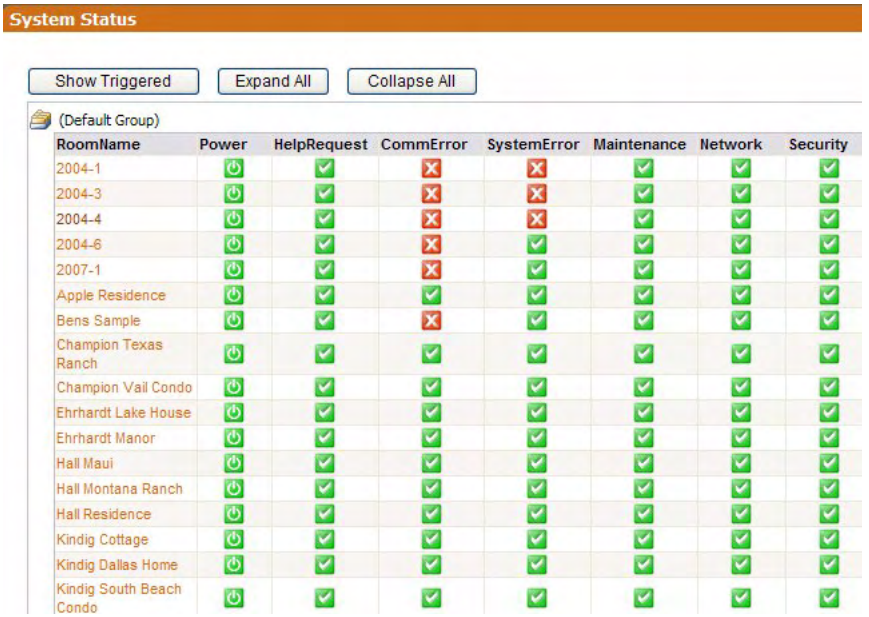


FIG. 11 System Status Page

Each room entry lists the *Room Name*, Room *Power* Status, *Help Request*, Room Communication Error, *System Error*, *Maintenance* Issues, *Network* Errors, and *Security* Errors.

System Status	
Room Name	The room name for this row. A link to the *View Room Setting Page* for a room. This link provides access to a detailed list of all devices and device parameters for a given room. To investigate more thoroughly, click on this link.
Power	The Room Power status for this room.
Help Request	The Help Request status for this room.
Comm Error	The Room Communication Status for this room.
System Error	The Control System status for this room and its devices.

System Status (Cont.)	
Maintenance	The Maintenance Request status for this room and its devices.
Network	The Network status for this room and its devices.
Security	The Security status for this room and its devices.

Rooms are displayed in a tree view of groups and rooms. By default, all groups are rolled up unless an error has occurred. In that case, the group containing errors is unrolled. **Show Triggered** redraws using the default view. **Expand all** unrolls all groups. **Collapse all** rolls up all groups. **Refresh** refreshes this page.

The *Room Power Status* field will display a green power icon when the room power is on. Under normal operating conditions, this page will display the power status for all rooms with a green check in all error columns. If an error does occur the System Status page will display a red **X** for the room with the error. Additionally, the error will appear as an item in the Hot List.

Viewing System Status information

To access the System Status page:

- Select *System Status* in the menu on the left side of the RMS application. Any rooms containing a parameter needing attention are expanded for viewing.

Viewing device information in the System Status page

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.

View Devices Page

The view devices screen lists the devices and their parameters being monitored by the RMS application.

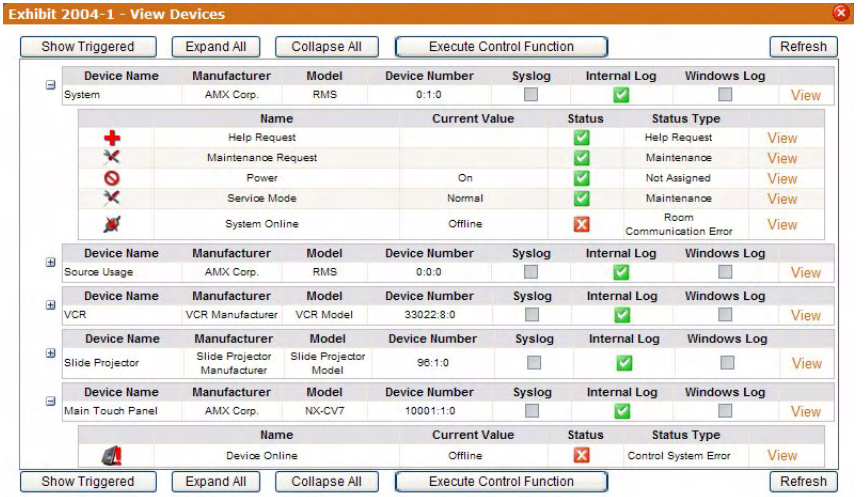


FIG. 12 View Devices Page

The screen is broken up into a section for each device, each containing the following:

Device List Information	
Device Name	The name of the monitored device.
Manufacturer	The manufacturer of the monitored device.
Model	The model of the monitored device.
Device Number	The NetLinx device number for this device as defined in the NetLinx program.
Syslog, Internal Log, Windows Log	Checkboxes indicate if the device will report any errors to the various logs.
View	This link provides more details for the device settings and allows them to be modified. See the *Device Information Page* for more information.

Each device can have one or more monitored parameters. They are collapsed within the table directly below the device and contain the following information:

Device List Monitored Parameters	
Name	The name of the parameter being monitored.
Current Value	The current value for the parameter.
Status	This checkbox indicated if the parameter is operating within or outside of its threshold value. The tool tip for this checkbox provides details about the threshold for the parameter.
Status Type	This is the status type with which the parameter is associated.
View	This link provides more details for the parameter settings and allows them to be modified. See *Device Parameter Page* section on page 66

Execute Control Function Page

The Execute Control Function page allows you to execute control functions at the device level within specified rooms. RMS uses i!-ConnectLinx to facilitate these controls.

i!-ConnectLinx provides the mechanism to expose actions to the RMS server and to manage action execution on the NetLinx system. Once a user builds a preset from the actions in the i!-ConnectLinx action list, the RMS server makes a request to i!-ConnectLinx to execute those actions. i!-ConnectLinx handles this request and presents it to the NetLinx program for execution. See the i!-ConnectLinx section of the *RMS Programmer's* guide for details on programming.

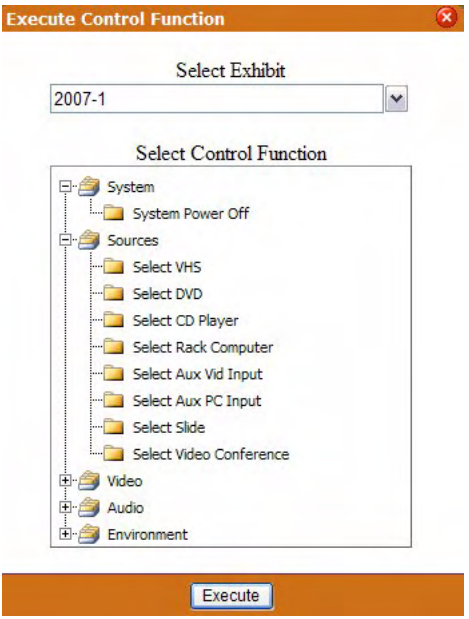


FIG. 13 Execute Control Function Page

Execute Control Function	
Select Room	A drop down menu of available rooms and groups within the RMS system.
Select Control Function	Detected control functions for the selected room.
Execute	Executes the selected control function.

Device Information Page

This screen lists the device settings and allows you to modify them.

Device Information	
Name	The name of the monitored device.
Manufacturer	The manufacturer of the monitored device.
Model	The model of the monitored device.
Manual URL	A URL link to the manual on the manufacturer's web site.
Description	A description of the monitored device.
Serial Number	The serial number of the monitored device.
Modify	Click to modify the device. See the *Viewing a Device log* section on page 73.
Delete	Click to delete the device. The system device cannot be deleted.
Back (X)	Return to the device list.

The NetLinx Device Information section is information for the NetLinx device with which this device is associated. For instance, if a projector is connected to NetLinx through an NXC-COM2 card, this table will contain information about the NXC-COM2 card.

NetLinx Device Information	
Device Type	The type of NetLinx device.
Version	The firmware version of the NetLinx device. This is not available for AXLink devices.
Serial Number	The serial number of the NetLinx device. This is not available for AXLink devices.
Device Connection Method	The connection type of this device. This will be ICSNet, TCP/IP or AXLink. This can be useful in diagnosing device connection problems.
Device Address	The physical address of the device. For ICSNet, this is the hardware address of the device on the ICSNet bus. For TCP/IP connections, this is the IP address of the device. For AXLink, this is "AXLink."

Device Logging	
Syslog	These checkboxes indicate if the device will report any errors to the various logs; green checks are enabled and red Xs are disabled.
Internal Log	
Windows Log	
SNMP Trap	

See Also:

View Log - Launches the *Internal Log Report Page* section on page 160 for that specific device.

Viewing a Device log section on page 73

Modify Device Information Page

To modify a device, click modify. This screen allows you to change values. While in this screen, you can make changes to the *Device Information* and *Device Logging* sections of the *Device Information* page.

See Also:

Device Information Page section on page 64

Device Parameter Page

Parameter information attributed to a device monitored by the RMS application is listed here.

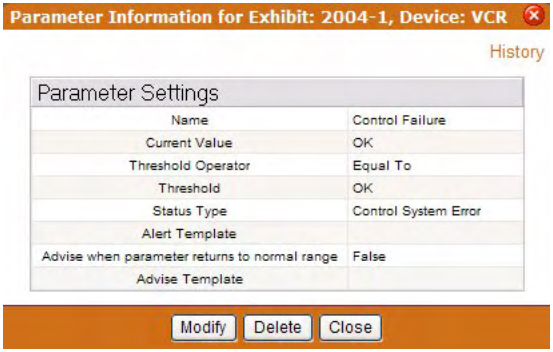


FIG. 14 Device Parameter Page

Parameter Settings	
Name	The name of the parameter being monitored.
Current Value	The value of the parameter
Threshold Operator	The threshold value is the value for which this parameter is considered to indicate a problem or fault. The comparison operator is used to detect when the value changes from the un-faulted to the faulted condition. The comparison operators "Less Than", "Less Than or Equal To", "Greater Than", "Greater Than or Equal To", "Equal To", and "Not Equal To" can be used for string and number parameters. The comparison operators "Contains" and "Does Not Contain" are primarily used for string parameters. **Example:** "Lamp Hours" might have a threshold value of 1000 and any value over this would require maintenance. The comparison operator would then be "Greater Than". When this parameter changes from a value that is not greater than 1000 to a value that is greater than 1000, the parameter will faulted. When the value changes from a value greater than 1000 to a value not greater than 1000, the fault status is cleared.
Threshold	The threshold value

Parameter Settings (Cont.)	
Status Type	The status represents the type of problem a faulted condition represents. Status Types include: • Control System Error • Equipment Usage • Help Request • Maintenance • Modified Appointment • Network • New Appointment • New NetLinx System • Not Assigned • Room Communication Error • Security • Server Status • System Communication Error **Example:** When "Lamp Hours" changes from an un-faulted (not greater than 1000) to a faulted (greater than 1000), this change represents a "Maintenance Request" status that requires an AV technician to repair the equipment. If the "Device Online" parameter changes from "Online" to "Offline", this change could represent a "Security" or "Control System Error" status. The RMS application will route the status type to the appropriate personnel as determined by the Notification Configuration settings.
Alert Template	The notification template to use when the parameter's value is outside the normal operating range.
Advise when parameter returns to normal range	The RMS application sends a notification for a parameter when it returns to its normal operating range.
Advise Template	The notification template to use when the parameter's value returns to the normal operating range.

History - Launches the *Device Parameter History Page* section on page 68.

Modify - Launches the *Modify Parameter Page* section on page 69.

Delete - Deletes the parameter.

See Also:

Configure Notification Template Page section on page 172 - modify notification templates to fulfill your own needs.

Device Parameter History Page

The Device Parameter History page contains status tracking information for each device assigned to a room.

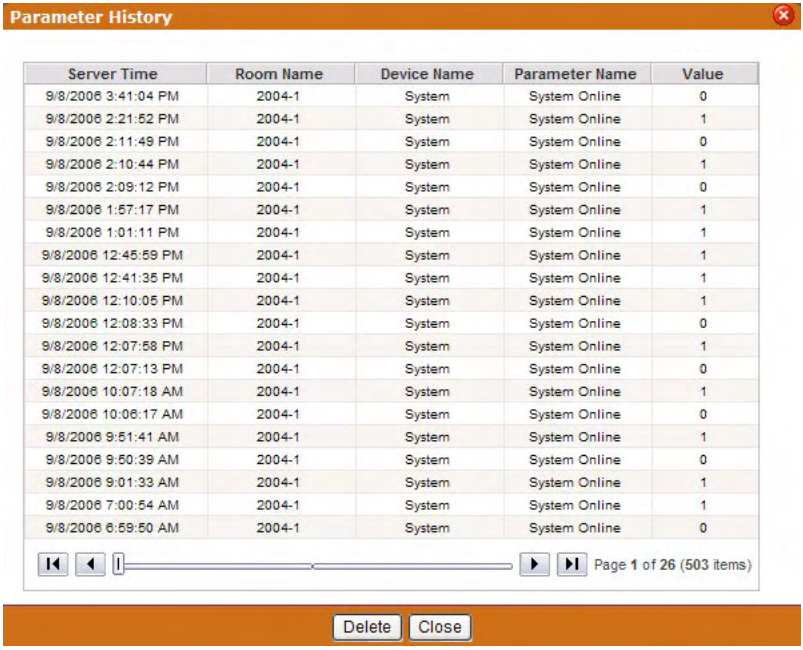

Parameter History
Server Time
Room Name
Device Name
Parameter Name
Value
9/8/2006 3:41:04 PM 2004-1 System System Online 0
9/8/2006 2:21:52 PM 2004-1 System System Online 1
9/8/2006 2:11:49 PM 2004-1 System System Online 0
9/8/2006 2:10:44 PM 2004-1 System System Online 1
9/8/2006 2:09:12 PM 2004-1 System System Online 0
9/8/2006 1:57:17 PM 2004-1 System System Online 1
9/8/2006 1:01:11 PM 2004-1 System System Online 1
9/8/2006 12:45:59 PM 2004-1 System System Online 1
9/8/2006 12:41:35 PM 2004-1 System System Online 1
9/8/2006 12:10:05 PM 2004-1 System System Online 1
9/8/2006 12:08:33 PM 2004-1 System System Online 0
9/8/2006 12:07:58 PM 2004-1 System System Online 1
9/8/2006 12:07:13 PM 2004-1 System System Online 0
9/8/2006 10:07:18 AM 2004-1 System System Online 1
9/8/2006 10:06:17 AM 2004-1 System System Online 0
9/8/2006 9:51:41 AM 2004-1 System System Online 1
9/8/2006 9:50:39 AM 2004-1 System System Online 0
9/8/2006 9:01:33 AM 2004-1 System System Online 1
9/8/2006 7:00:54 AM 2004-1 System System Online 1
9/8/2006 6:59:50 AM 2004-1 System System Online 0
Page 1 of 26 (503 items)
Delete
Close

FIG. 15 Device Parameter History Page

Device Parameter History	
Server Time	The date and time the status was logged as set by the server.
Room Name	The name of the room to which the device is assigned.
Device Name	The assigned name of the device.
Parameter Name	The assigned name of the parameter tracked by the system status.
Value	The tracked value as it relates to the assigned parameter.

Delete - Clears the Device Parameter History.

Modify Parameter Page

Make changes to existing device parameters via this page.

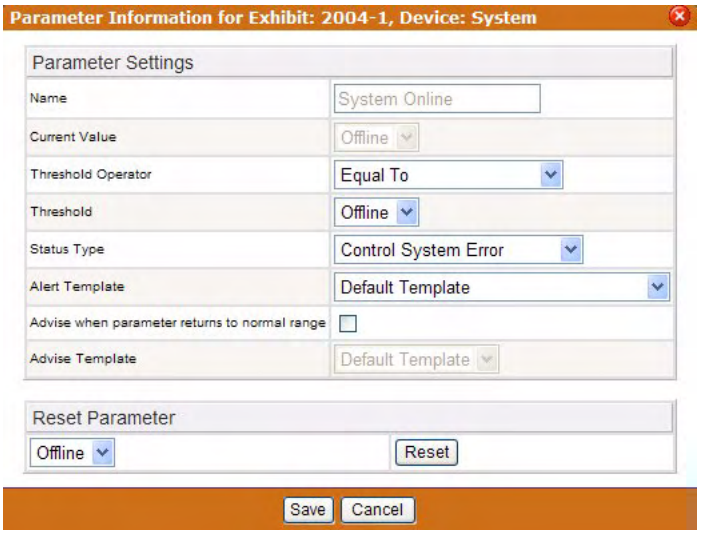


FIG. 16 Modify Parameter Page

Edit Parameter Settings	
Name	The friendly name of the parameter. *Cannot be changed.*
Current Value	The value of the parameter
Threshold Operator	A drop down selection the threshold designator for the parameter
Threshold	The threshold value.
Status Type	A drop down selection for the category to which the parameter belongs..
Alert Template	The notification template to use when the parameter's value is outside the normal operating range. Drop down selection of the types of alert templates available.
Advise when parameter returns to normal range	When checked, the RMS application sends a notification for a parameter when it returns to its normal operating range.
Advise Template	The notification template to use when the parameter's value returns to the normal operating range. Drop down selection of the types of advise templates available.

Reset - Resets all settings for the parameter to default values.

Save - Confirms the changes for the parameter changes and returns to the *Device Parameter Page*

Cancel - Exits to the *Device Parameter Page* without saving changes.

Viewing Device parameters

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Monitored Parameters* section. This launches the *Device Parameter Page* section on page 66.

Viewing Device Parameter history

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Monitored Parameters* section. This launches the *Device Parameter Page* section on page 66.
5. Click *History* to launch the *Device Parameter History Page* section on page 68.

Deleting Device Parameter history

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Monitored Parameters* section. This launches the *Device Parameter Page* section on page 66.
5. Click *History* to launch the *Device Parameter History Page* section on page 68.
6. Click **Delete**.

Modifying Device parameters

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Monitored Parameters* section. This launches the *Device Parameter Page* section on page 66.
5. Click **Modify**. This launches the *Modify Parameter Page* section on page 69.
6. Edit any of the following:
   - Select the *Threshold Operator* from the drop down menu.
   - Edit the threshold value in the field *Threshold (in)*.
   - Set the *Status Type* in the drop down menu.
   - Set an *Alert Template* from the drop down menu.
   - Enable or disable the option *Advise when parameter returns to normal range*.

     If you elected to enable the *Advise when parameter...* option, set the *Advise Template* from the drop down menu.
7. Click **Reset** to reset the parameter.
8. Click **Save** to save, **Cancel** to cancel.

Deleting Device parameters

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Monitored Parameters* section. This launches the *Device Parameter Page* section on page 66.
5. Click **Delete**.

Viewing detailed Device information

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Information* section. This launches the *Device Information Page* section on page 64.

Modifying Device information

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Information* section. This launches the *Device Information Page* section on page 64.
5. Click **Modify**. This launches the *Modify Device Information Page* section on page 65.
6. Edit any of the following:
    - The device *Name*
    - The device *Manufacturer*
    - The device *Model*
    - The *Manual URL* for the device
    - The *Description* of the monitored device

- The serial number of the monitored device.

7. Place a check next to the *Device Logging* tools you want enabled.
8. Click **Save** to save, **Cancel** to cancel.

Deleting Device information

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Information* section. This launches the *Device Information Page* section on page 64.
5. Click **Delete**.

Viewing a Device log

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click *View* for the selected parameter in the *Device List Information* section. This launches the *Device Information Page* section on page 64.
5. Click *View Log*. This launches the *Internal Log Report Page* section on page 160.

Executing a device control function

1. Select *System Status* in the menu on the left side of the RMS application.
2. Expand the group name containing the status you want to check.
3. Select the room name to view the device information page.
4. Click **Device Control**. This launches the *Execute Control Function Page* section on page 63. Only control functions available in this room are listed in this page. You can change rooms via the *Select Room* drop down menu.
5. Navigate to the control function you wish to execute in this room by double-clicking on each function and device type.
6. Click **Execute**.

Management Page

Manage Groups Page

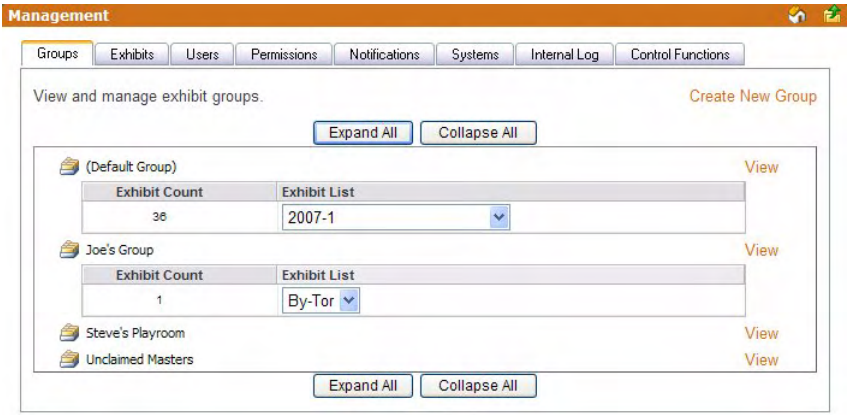


FIG. 17 Manage Groups Page

The group screen allows you to manage room grouping. Rooms are displayed in a tree view based on these groups

There are two rules to follow:

- A group can contain either rooms or sub groups, but never both.

Manage Groups	
Room Count	The number of rooms within the group.
Room List	A drop down menu to select a specific room within the group.
View	Launches the *View Group Setting Page* section on page 77.

Create New Group Page

FIG. 18 Create New Group Page

Create New Group	
Group Name	Text field for friendly name of the group.
Parent Group	Drop down list establishes the groups relation to other groups. A group can be separate, a child of another group, or the parent of other groups.
Room	Rooms included in the group.
Available Rooms	Rooms that can be included in the group.
<< / >>	Moves a selected room to the left and right adding or removing the room from the group list.

Example Group structures:

- City
  - Building
    - Floor
- Campus
  - Building
    - Floor
- Country
  - City
    - Department

View Group Setting Page

View Group Setting	
Group Name	Text field for friendly name of the group.
Parent Group	Drop down list establishes the groups relation to other groups. A group can be separate, a child of another group, or the parent of other groups.
Room	Rooms included in the group.
Modify	Launches the *Modify Group Setting Page* section on page 77.
Delete	Deletes the selected group.

Modify Group Setting Page

Modify Group Setting	
Group Name	Text field for friendly name of the group.
Parent Group	Drop down list establishes the groups relation to other groups. A group can be separate, a child of another group, or the parent of other groups.
Room	Rooms included in the group.
Available Rooms	Rooms that can be included in the group.
<< / >>	Moves a selected room to the left and right adding or removing the room from the group list.

Creating a new Group

1. Select *Management* > *Groups* in the menu on the left side of the RMS application.
2. From the *Manage Groups Page*, select *Create New Group*.
3. In the *Create New Group Page*, type the name of the group in the field *Group Name*.
4. If it is a group of groups, select the *Parent Group* in the drop down list.
5. If it is a group of rooms, select the rooms in the window *Available Rooms* and click the **<<** button to move the rooms to the *Rooms* window.
6. Click **Save** to save, **Cancel** to cancel.

To reassign a room to another group, delete it from the group to which it currently belongs, then add the room to the desired group.

Viewing Group settings

1. Select *Management* > *Groups* in the menu on the left side of the RMS application.
2. Double-click to open the group or group of groups you intend to view.
3. When you have located the group, click *View*. This launches the *View Group Setting Page* section on page 77.

Editing a Group

1. Select *Management* > *Groups* in the menu on the left side of the RMS application.
2. Double-click to open the group or group of groups you intend to edit.
3. When you have located the group, click *View Group*. This launches the *Viewing Group settings* section on page 78.
4. Click **Modify**. To open the modify options (*Modify Group Setting Page* section on page 77).
5. Edit any of the following fields:
   - Group Name
   - Set or remove the Parent Group from the drop down list
   - Add (**<<**) or remove (**>>**) rooms within the group
6. Click **Save** to save, **Cancel** to cancel.

Deleting Groups

1. Select *Management* > *Groups* in the menu on the left side of the RMS application.
2. Double-click to open the group or group of groups you intend to edit.
3. When you have located the group, click *View Group*. This launches the *View Group Setting Page* section on page 77.
4. Click **Delete**.

Manage Rooms Page

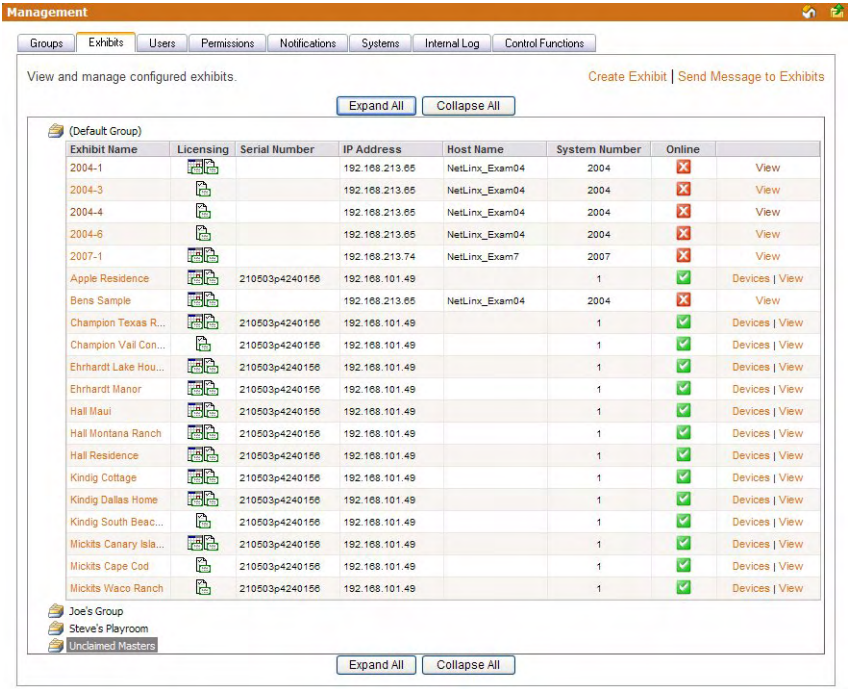

Management
Groups
Exhibits
Users
Permissions
Notifications
Systems
Internal Log
Control Functions
View and manage configured exhibits.
Create Exhibit | Send Message to Exhibits
Expand All
Collapse All
(Default Group)
Exhibit Name
Licensing
Serial Number
IP Address
Host Name
System Number
Online
2004-1 192.168.213.65 NetLinx_Exam04 2004 View
2004-3 192.168.213.65 NetLinx_Exam04 2004 View
2004-4 192.168.213.65 NetLinx_Exam04 2004 View
2004-6 192.168.213.65 NetLinx_Exam04 2004 View
2007-1 192.168.213.74 NetLinx_Exam7 2007 View
Apple Residence 210503p4240156 192.168.101.49 1 Devices | View
Bens Sample 192.168.213.65 NetLinx_Exam04 2004 View
Champion Texas R... 210503p4240156 192.168.101.49 1 Devices | View
Champion Vail Con... 210503p4240156 192.168.101.49 1 Devices | View
Ehrhardt Lake Hou... 210503p4240156 192.168.101.49 1 Devices | View
Ehrhardt Manor 210503p4240156 192.168.101.49 1 Devices | View
Hall Maui 210503p4240156 192.168.101.49 1 Devices | View
Hall Montana Ranch 210503p4240156 192.168.101.49 1 Devices | View
Hall Residence 210503p4240156 192.168.101.49 1 Devices | View
Kindig Cottage 210503p4240156 192.168.101.49 1 Devices | View
Kindig Dallas Home 210503p4240156 192.168.101.49 1 Devices | View
Kindig South Beac... 210503p4240156 192.168.101.49 1 Devices | View
Mickits Canary Isla... 210503p4240156 192.168.101.49 1 Devices | View
Mickits Cape Cod 210503p4240156 192.168.101.49 1 Devices | View
Mickits Waco Ranch 210503p4240156 192.168.101.49 1 Devices | View
Joe's Group
Steve's Playroom
Unclaimed Masters
Expand All
Collapse All

FIG. 19 Manage Rooms Page

Manage Rooms	
Room Name	The friendly name of the rooms. Launches the *View Room Setting Page*.
Licensing	Asset License and Scheduling License
Serial Number	Serial Number associated with the room.
IP Address	IP Address associated with the room.
Host Name	Host Name associated with the room.
System Number	This is the system number of the NetLinx master. The system number is used in master-to-master configuration.
Online	The communication status of the room. A green check indicates that the room is connected to the RMS application. A red X indicates that room is not connected to the RMS application due to a network or control system error.
Devices	Launches the *View Devices Page* section on page 61.
View	Launches the *View Room Setting Page* section on page 82.

Create New Room Page

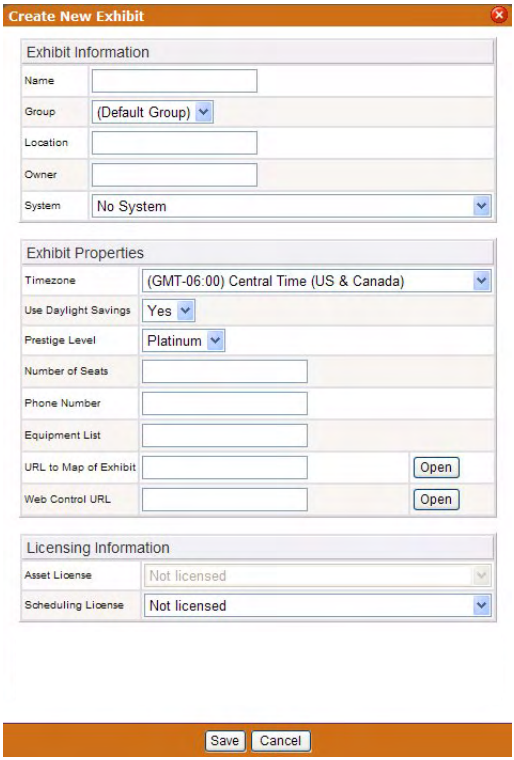


FIG. 20 Create New Room Page

The *Create New Room* page allows you to add rooms to RMS applications, monitor and schedule. Some information is provided by the NetLinx master when discovered by the RMS application.

Room Information	
Name	The name of the room.
Location	The location of the room
Owner	Room's owner
Master	A drop down list to select the NetLinx master with which the room is associated.

Room Properties	
Time zone and Use Daylight Savings	This is the time zone setting for the room. Select the appropriate time zone from the drop down list.
Use Daylight Savings	This is the daylight saving setting for the room. Select *Yes* to enable the use of Daylight Savings from the drop down list.
Prestige Level	Select the level from the drop down list. This is the prestige level for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search.
Number of Seats	This is the number of seats for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search.
Phone Number	In the event the room is equipped with a phone, this is the number for that phone.
Equipment List	This is the equipment list for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search. All equipment items should be separated by a comma.
URL to Map of Room	This is a URL link to a map of the room. While the RMS application does not provide any facility to generate and manage maps of your facility, this link is provided so users can access a map of the facility with the room shown if you have access to such maps. Click **Open** to browse to the selected file.
Web Control Path	This is the i!-WebControl URL of the room. This link is provided to allow quick access to any HTML based control panels that may have been programmed into the NetLinx system. Click **Open** to browse to the selected file.

Licensing Information	
Asset License	An Asset License allows you to monitor the room and assign notifications, but does not allow for scheduling. A room such as an equipment closet, where you may want to monitor equipment, would be an example of a room that is not schedulable. If an Asset License is available you can select one from the drop down list. If you cannot select a license, you must contact AMX to purchase a license for this system.
Scheduling License	A Scheduling License allows you to schedule and reserve the room and execute macros. If a Scheduling License is available you can select one from the drop down list. If you cannot select a license, you must contact AMX to purchase a license for this system.

View Room Setting Page

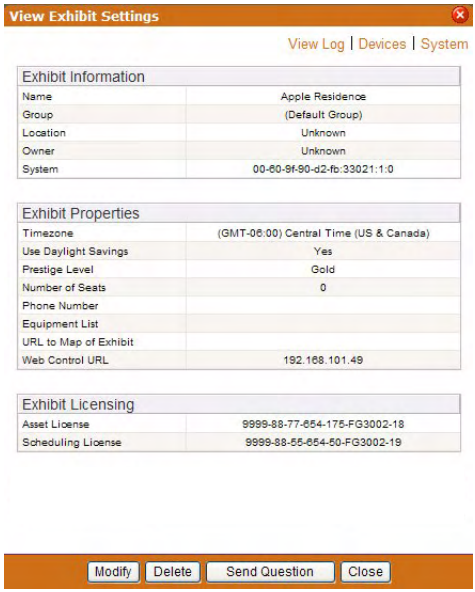


FIG. 21 View Room Setting Page

Room Information	
Name	The name of the room.
Location	The location of the room
Owner	Room's owner
Master	The NetLinx master with which the room is associated.

Room Properties	
Time zone and Use Daylight Savings	This is the time zone setting for the room.
Use Daylight Savings	This is the daylight saving setting for the room.
Prestige Level	This is the prestige level for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search.

Room Properties (Cont.)	
Number of Seats	This is the number of seats for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search.
Phone Number	In the event the room is equipped with a phone, this is the number for that phone.
Equipment List	This is the equipment list for the room. This value is optional but helps users find a room that meets their needs through the RMS application's room search.
URL to Map of Room	This is a URL link to a map of the room.
Web Control Path	This is the i!-WebControl URL of the room. This link is provided to allow quick access to any HTML based control panels that may have been programmed into the NetLinx system.

Licensing Information	
Asset License	This is the Asset License number for the room. If you do not have a license, you must contact AMX to purchase a license for this system.
Scheduling License	This is the Scheduling License number for the room. If you do not have a license, you must contact AMX to purchase a license for this system.

See Also...

Internal Log Report Page section on page 160

View Devices Page section on page 61

View System Page section on page 105

Send Question Page section on page 84

Send Question Page

Use the RMS application interface to communicate simple questions to selected rooms.

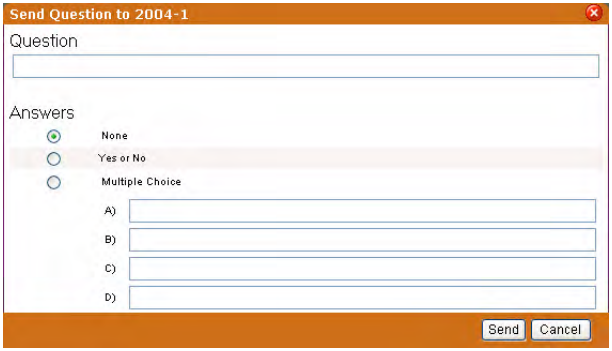


FIG. 22 Send Question Page

Send Question	
Question	Text field for you to type a question; the question is sent to the room.
Answers	
None	No possible answer to your question is provided to the recipient.
Yes or No	The option of yes or no is provided to the recipient.
Multiple Choice	Using the text fields, *A, B, C,* and *D*, provide the recipient 4 possible answers.

Creating a new Room

1. Select *Management* > *Rooms* in the menu on the left side of the RMS application.
2. From the *Manage Rooms Page*, select *Create Room*.
3. In the *Create New Room Page*, type the Room Information; the fields are *Name, Location, Owner*. If there is a NetLinx master, select it from the drop down menu.
4. Enter the Room Properties; the text fields are *Number of Seats, Phone Number,* and *Equipment List*. The drop down menu selections are *Timezone, Use Daylight Savings,* and *Prestige Level*. *URL to Map of Room* and *Web Control URL* are either text field or click **Open** to browse to the desired files.

While this information is not required it does aid your users in deciding rooms for scheduling use.

5. In the Licensing Information section, select the license type to use for the room. The *Asset License* and *Scheduling License* drop down menus are only enabled if available licenses are detected on the RMS server.
6. Click **Save** to save, **Cancel** to cancel.

Editing a Room

1. Select *Management* > *Rooms* in the menu on the left side of the RMS application.
2. From the *Manage Rooms Page*, select *View.*
3. In the *View Room Setting Page*, click **Modify**.
4. Edit the Room Information; the fields are *Name, Location, Owner.* If there is a NetLinx master, select it from the drop down menu.
5. Edit the Room Properties; the text fields are *Number of Seats, Phone Number,* and *Equipment List*. The drop down menu selections are *Timezone, Use Daylight Savings,* and *Prestige Level*. *URL to Map of Room* and *Web Control URL* are either text field or click **Open** to browse to the desired files. While this information is not required it does aid your users in deciding rooms for scheduling use.
6. In the Licensing Information section, select the license type to use for the room. The *Asset License* and *Scheduling License* drop down menus are only enabled if available licenses are detected on the RMS server.
7. Click **Save** to save, **Cancel** to cancel.

Deleting Rooms

1. Select *Management* > *Rooms* in the menu on the left side of the RMS application.
2. From the *Manage Rooms Page*, select *View.*
3. In the *View Room Setting Page*, click **Delete**.

Viewing Room settings

1. Select *Management* > *Rooms* in the menu on the left side of the RMS application.
2. From the *Manage Rooms Page*, select *View.*

Sending a question to a room

1. Select *Management* > *Rooms* in the menu on the left side of the RMS application.
2. From the *Manage Rooms Page*, select *View.*
3. In the *View Room Setting Page*, click **Send a Question**. This launches the *Send Question Page* section on page 84
4. Type your *Question* in the field provided.
5. Select your *Answer* type. If you selected *Multiple Choice*, type the possible answers in the fields provided.
6. Click **Send** to send, **Cancel** to cancel.

Manage Users Page

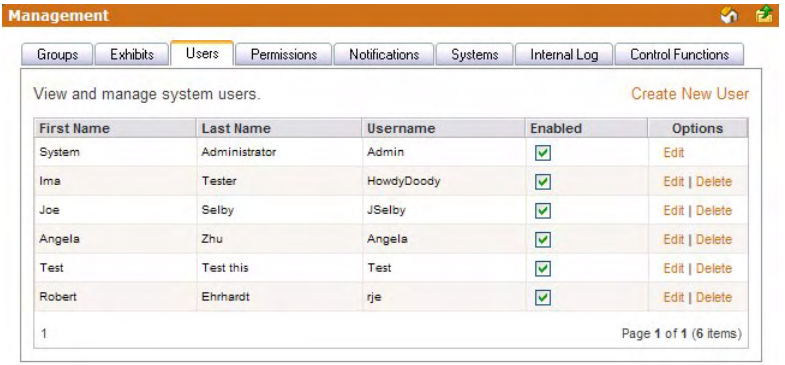


FIG. 23 Manage Users Page

System Users Information	
First Name	The user's first name.
Last Name	The user's last name.
Username	The username of the user; the username is used at the time of log in.
Enabled	When checked, the user account is enabled and can be used.
Options	Edit - Launches the *Edit User Page*. Delete - Deletes the selected user from the system. Notice you cannot delete the System Administrator.

Create New User Page

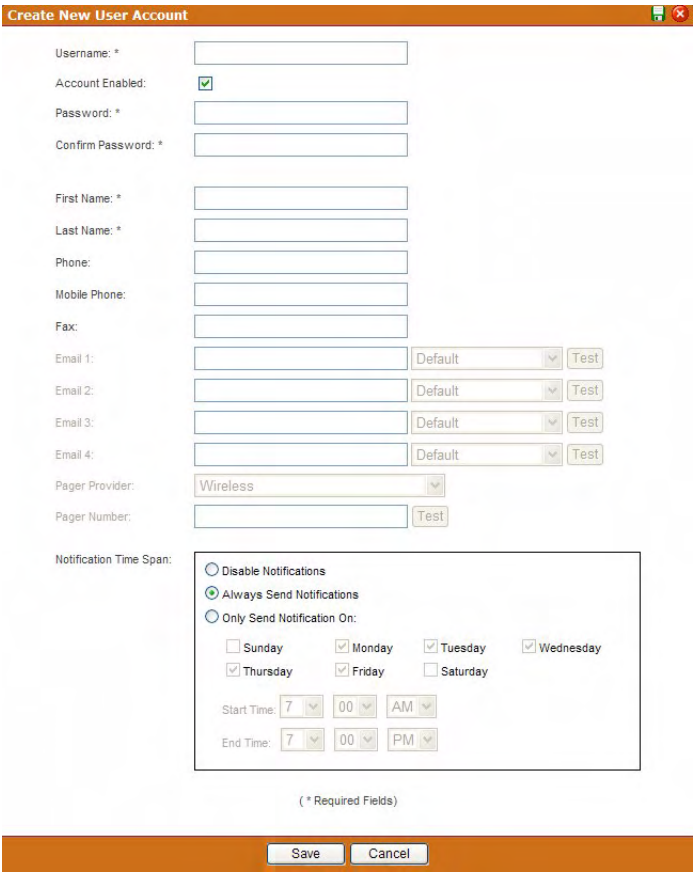


FIG. 24 Create New User Page

A user must be in place in order for the RMS application to send notifications. In addition, users are used to control access to the system. Once a user has been created, notifications can be assigned.

Create New User Page	
Username	Username for login. This field is required.
Account Enabled	When unchecked, this account cannot log into the RMS application. However, this user can still receive notifications.

Create New User Page (Cont.)	
Password	Password for login. This field is required.
Confirm Password	Confirm password for login. This field is required.
First Name	The first name of the user. This field is required.
Last Name	The last name or surname of the user. This field is required.
Phone	The phone number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Mobile Phone	The mobile phone number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Fax	The FAX number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Email 1	The primary email account for this user if no other account is specified. This address will be used for notification emails. Set it as the default from the drop down menu to the right of the field. Send a test notification to the account by pushing **Test**. You can enter up to 100 characters for an email address.
Email 2, Email 3, Email 4	These are the secondary email accounts for this user. These addresses will be used for notification emails. Set it as the default from the drop down menu to the right of the field. Send a test notification to the account by pushing **Test**. You can enter up to 100 characters for an email address.
Pager Provider and Pager Number	These are the pager setting for SNPP. Enter a pager number and select the pager provider for your alpha-numeric pager. This number will be used for sending notification messages. **Test** will send a test message to this pager.
Notification Time Span:	
Disable Notifications	The RMS server does not send notifications to this user.
Always Send Notifications	The RMS server sends all notifications as they occur to this user.
Only Send Notification On:	The RMS server sends all notifications but only on the selected days and within the selected times.

Once the user's information is in place, select the **Save** button to complete the addition.

Edit User Page

The fields on the Edit User Page match those of the Create New User Page (see FIG. 24).

Any changes needed to be made to a preexisting user must be made in the Edit User page.

Edit User Page	
Username	Username for login. This field is required.
Account Enabled	When unchecked, this account cannot log into the RMS application. However, this user can still receive notifications.
Password	Password for login. This field is required.
Confirm Password	Confirm password for login. This field is required.
First Name	The first name of the user. This field is required.
Last Name	The last name or surname of the user. This field is required.
Phone	The phone number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Mobile Phone	The mobile phone number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Fax	The FAX number of the user. This value is not used by the RMS application; it is only used for reference by the RMS application administrators.
Email 1	The primary email account for this user if no other account is specified. This address will be used for notification emails. Set it as the default from the drop down menu to the right of the field. Send a test notification to the account by pushing **Test**. You can enter up to 100 characters for an email address.
Email 2, Email 3, Email 4	These are the secondary email accounts for this user. These addresses will be used for notification emails. Set it as the default from the drop down menu to the right of the field. Send a test notification to the account by pushing **Test**.You can enter up to 100 characters for an email address.
Pager Provider and Pager Number	These are the pager setting for SNPP. Enter a pager number and select the pager provider for your alpha-numeric pager. This number will be used for sending notification messages. **Test** will send a test message to this pager.

Edit User Page (Cont.)	
Notification Time Span:	
Disable Notifications	The RMS server does not send notifications to this user.
Always Send Notifications	The RMS server sends all notifications as they occur to this user.
Only Send Notification On:	The RMS server sends all notifications but only on the selected days and within the selected times.

Once the user's information is in place, select the **Save** button to complete the changes.

Creating a new User

1. Select *Management* > *Users* in the menu on the left side of the RMS application.
2. From the *Manage Users Page*, select *Create New User.*
3. In the *Create New User Page*, provide the following required information, *Username, Password, Password Confirmation, First Name,* and *Last Name*.
4. *Account Enabled* must be checked for the user to become active.
5. Provide any pertinent contact information, e.g., *Mobile Phone and Fax*.
6. If desired, provide the RMS application with a default email or pager number for sending system notifications.
7. Set the *Notification Time Span*; your choices are *Disable Notifications, Always Send Notifications,* and *Only Send Notification On* parameter.
8. Click **Save** to save, **Cancel** to cancel.

Editing Users

1. Select *Management* > *Users* in the menu on the left side of the RMS application.
2. From the *Manage Users Page*, select *Edit*.
3. In the *Edit User Page*, edit the following required information, *Username, Password, Password Confirmation, First Name,* and *Last Name*.
4. *Account Enabled* must be checked for the user to be active.
5. Provide any pertinent contact information, e.g., *Mobile Phone and Fax*.

6. If desired, provide the RMS application with a default email or pager number for sending system notifications.
7. Set the *Notification Time Span*; your choices are *Disable Notifications, Always Send Notifications,* and *Only Send Notification On* parameter.
8. Click **Save** to save, **Cancel** to cancel.

Deleting Users

1. Select *Management* > *Users* in the menu on the left side of the RMS application.
2. From the *Manage Users Page*, select *Delete*.

How do I disable/enable a user?

1. Select *Management* > *Users* in the menu on the left side of the RMS application.
2. From the *Manage Users Page*, select *Edit*.
3. Uncheck the box *Account Enabled*.
4. Click **Save** to save, **Cancel** to cancel.

Manage Permissions Page

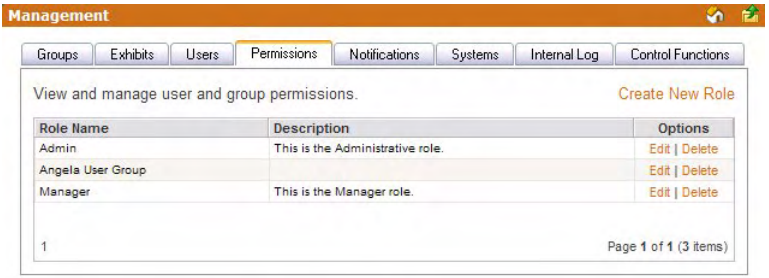


FIG. 25 Manage Permissions Page

If a user logs in with a valid username and password, their access to pages is determined by the role set for that user. For instance, if **John Doe** has *Manager* access any user who enters John Doe's username and password can enter the site with *Manager* access. This user will only be denied access to pages that *Managers* are not allowed to access.

At any point, a user can choose to log out. If a user closes the browser, the user is automatically logged out. Any attempt to access an Admin page from a new browser session will require the user to login again.

A role is a collection of user permissions to which users can be assigned.

Manage Permissions	
Role Name	The friendly name of the security level or "role" within the RMS server.
Description	A brief description of the role and the rights it holds.
Options	**Edit** - Launches the *Edit Role Page* section on page 96. **Delete** - Deletes the selected role from the system.

Create New Role Page

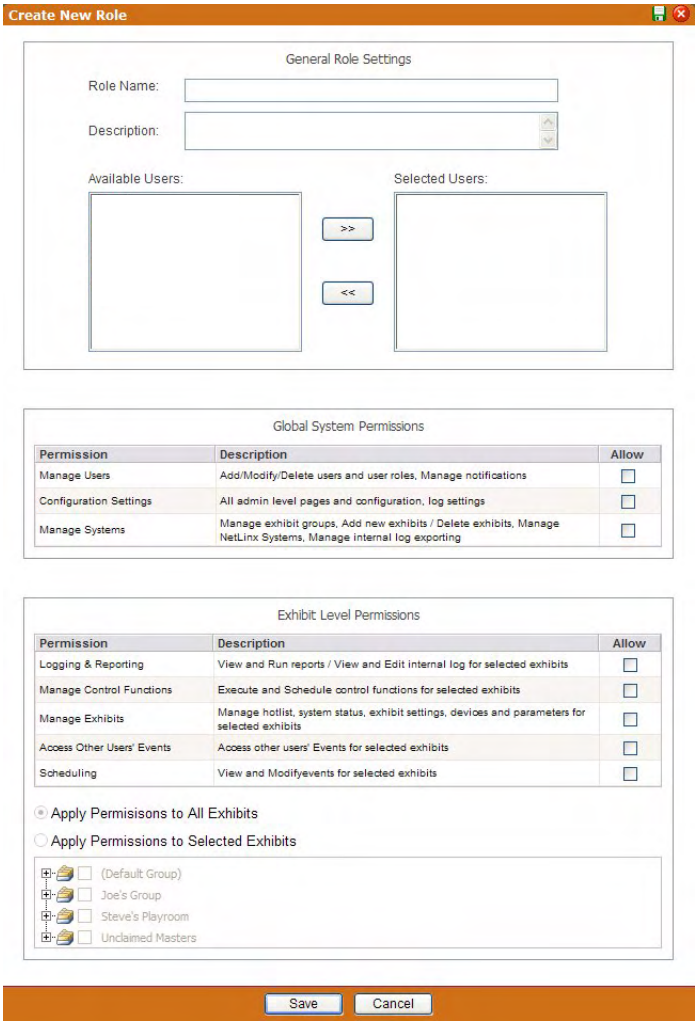


FIG. 26 Create New Role Page

Create New Role	
Role Name	The friendly name of the security level or "role" within the RMS server.
Description	A brief description of the role and the rights it holds.
Available Users	Users within the RMS application that can be added to the role.

Create New Role (Cont.)	
Selected Users	Users that have been added to the role.
<< / >>	Moves a selected user to the left and right adding or removing the user from the role.
Manage Users	When *Allow* is checked, users in this role can add, edit, and delete other users and how RMS interacts with those users, e.g., notifications.
Configuration Settings	When *Allow* is checked, users in this role can access the configuration section of the Admin pages. Create and edit log settings.
Manage Systems	When *Allow* is checked, users in this role can add, edit, and delete rooms, and manage NetLinx systems and groups.
Logging & Reporting	When *Allow* is checked, users in this role can view and edit all logs and reports.
Manage Control Functions	When *Allow* is checked, users in this role can run and schedule control functions.
Manage Rooms	When *Allow* is checked, users in this role can manage the hotlist, system status, room settings, devices and parameters for the selected rooms.
Access Other User's Appointments	When *Allow* is checked, users in this role can access another user's appointments for the selected rooms.
Scheduling	When *Allow* is checked, users in this role can view and modify appointments for the selected rooms.
Apply Permissions to All Rooms	When selected, applies all set permissions to every room within the RMS system.
Apply Permissions to Selected Rooms	When selected, applies all set permissions to the rooms and groups selected in the list.

Edit Role Page

Edit Role	
Role Name	The friendly name of the security level or "role" within the RMS server.
Description	A brief description of the role and the rights it holds.
Available Users	Users within the RMS application that can be added to the role.
Selected Users	Users that have been added to the role.
<< / >>	Moves a selected user to the left and right adding or removing the user from the role.
Manage Users	When *Allow* is checked, users in this role can add, edit, and delete other users and how RMS interacts with those users, e.g., notifications.
Configuration Settings	When *Allow* is checked, users in this role can access the configuration section of the Admin pages. Create and edit log settings.
Manage Systems	When *Allow* is checked, users in this role can add, edit, and delete rooms, and manage NetLinx systems and groups.
Logging & Reporting	When *Allow* is checked, users in this role can view and edit all logs and reports.
Manage Control Functions	When *Allow* is checked, users in this role can run and schedule control functions.
Manage Rooms	When *Allow* is checked, users in this role can manage the hotlist, system status, room settings, devices and parameters for the selected rooms.
Access Other User's Appointments	When *Allow* is checked, users in this role can access another user's appointments for the selected rooms.
Scheduling	When *Allow* is checked, users in this role can view and modify appointments for the selected rooms.
Apply Permissions to All Rooms	When selected, applies all set permissions to every room within the RMS system.
Apply Permissions to Selected Rooms	When selected, applies all set permissions to the rooms and groups selected in the list.

Creating a new Role

1. Select *Management* > *Permissions* in the menu on the left side of the RMS application.
2. From the *Manage Permissions Page*, select *Create New Role*.
3. In the *Create New Role Page*, type the name of role in *Role Name*.
4. Type a brief description of the duties of this role in the space provided.
5. Select the users in *Available Users* and click **>>** to add them to the role, *Selected Users*.
6. Set the *Global System Permissions*.
7. Set the *Room Level Permissions*.
8. Apply the role permissions to either all rooms or select *Apply Permissions to Selected Rooms*, and select the rooms/groups from the list.
9. Click **Save** to save, **Cancel** to cancel.

Editing a Role

1. Select *Management* > *Permissions* in the menu on the left side of the RMS application.
2. From the *Manage Permissions Page*, select *Edit*.
3. In the *Edit Role Page*, edit the name of role in *Role Name*.
4. Edit the brief description of the duties of this role in the space provided.
5. Select the users in *Available Users* and click **>>** to add them to the role, *Selected Users* or vice versa to remove a user from the role.
6. Revise the *Global System Permissions*.
7. Revise the *Room Level Permissions*.
8. Revise the role permissions to either all rooms or select *Apply Permissions to Selected Rooms*, and select the rooms/groups from the list.
9. Click **Save** to save, **Cancel** to cancel.

Deleting a role

1. Select *Management* > *Permissions* in the menu on the left side of the RMS application.
2. From the *Manage Permissions Page*, select *Delete*.

Manage Notifications Page

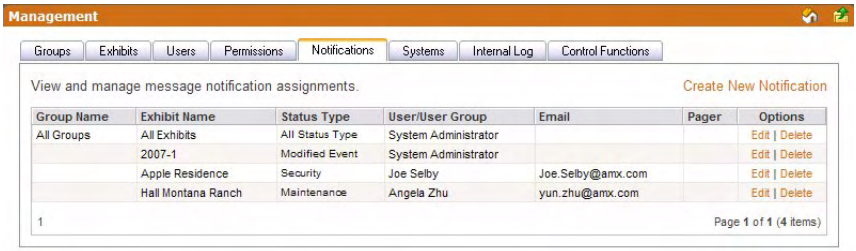


FIG. 27 Manage Notifications Page

This screen list allows you to configure notifications for your facility. Any user can be configured to receive notifications for any combination of groups, rooms and status types. Once a user has been created, notifications can be assigned. For more information on creating users, see *Creating a new User* section on page 91.

Manage Notifications	
Group Name	The group for this notification.
Room Name	The room for this notification.
Status Type	The Status Type for this notification.
User/User Group	The user or group for this notification.
Email	The user addresses for this notification.
Pager	The user pager number for this notification.
Options	Edit - Launches the *Edit Notification Page*. Delete - Deletes the selected notification.

See Also:

Creating a new Group section on page 77 - monitor a group of rooms to utilize notifications.

Creating a new Room section on page 84 - use notifications in conjunction with scheduling and monitoring rooms.

Create New Notifications Page

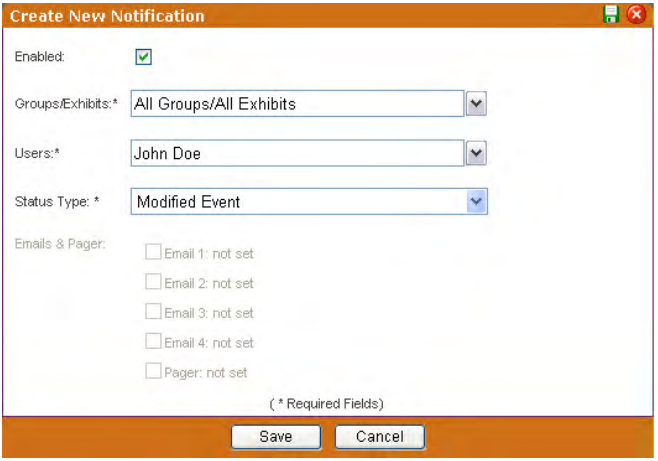


FIG. 28 Create New Notifications Page

Create New Notifications	
Enabled	A check in this box activates the notification.
Group/ Rooms	The group or rooms for this notification. You can select any one group to receive notification for all rooms contained in this group. This field is required
Users	The user or role for this notification. This field is required

Create New Notifications Page (Cont.)	
Status Type	The Status Type for this notification. You can select one type or all types. Notifications can be configured beyond the standard Equipment Monitoring status types. These additional status types are: • **Control System Error** This status type is triggered when the RMS server detects an error within the NetLinx master control system. • **Equipment Usage** This status type is triggered when any monitored equipment is used. • **Help Request** This status type is triggered when the RMS server reports receiving a help request. • **Maintenance** This status type is triggered when the RMS server reports receiving a request for maintenance. • **Modified Appointment** This status type is triggered when an existing appointment is modified for a room either through the internal scheduler or as detected by the RMS Scheduling manager for an external scheduling system. • **Network** This status type is triggered when the network creates an error. • **New Appointment** This status type is triggered when a new appointment is added for a room either through the internal scheduler or as detected by the RMS Scheduling manager for an external scheduling system. • **New NetLinx System** This status type is triggered when a new NetLinx system connects to the RMS server. • **Not Assigned** This status type is triggered when a detected NetLinx system has not been assigned. • **Room Communication Error** This status type is triggered when the RMS server software encounters a problem communicating with a room within the RMS system. • **Security** This status type is triggered when the RMS server reports a security parameter has been met. • **Server Status** This status type is trigger when the RMS server software starts up. • **System Communication Error** This status type is triggered when the RMS server software encounters a problem communicating with an external communication system, such as SMTP or SNPP. • This is a required field.

Create New Notifications Page (Cont.)	
Email, Pager	The user addresses for this notification. Check the addresses which should be contacted for this notification. You can enter up to 100 characters for an email address.

Edit Notification Page

You can only modify the delivery options of an existing notification.

Edit Notification	
Enabled	A check in this box activates the notification.
Users	The user or role for this notification. This field is required
Email, Pager	The user addresses for this notification. Check the addresses which should be contacted for this notification. You can enter up to 100 characters for an email address.

Creating a Notification

1. Select *Management* > *Notifications* in the menu on the left side of the RMS application.
2. Within the *Manage Notifications Page* section on page 98, select *Create New Notification*. This launches the *Create New Notifications Page* section on page 99.
3. Check the box next to *Enabled* to activate the notification.
4. Set the *Groups/Rooms* value for the notification. Select a group of rooms, a single room or all groups and rooms in the RMS system from the drop down menu. This field is required.
5. Set the *Users* value for the notification. Select a role or individual user in the RMS system from the drop down menu. This field is required.
6. Set the *Status Type* value for the notification. Select all status types or designate a specific status from the drop down menu. This field is required.
7. Select the delivery method for the notification. Place a check in each box to enable that option. These values correspond to those set for each user in RMS.
8. Click **Save** to save, **Cancel** to cancel.

Editing a Notification

Security settings dictate your ability to add/modify/delete notifications for anyone or yourself.

1. Select *Management* > *Notifications* in the menu on the left side of the RMS application.
2. Within the *Manage Notifications Page* section on page 98, select *Edit*. This launches the *Edit Notification Page* section on page 101.
3. Edit any of the following:
   - Check the box next to *Enabled* to activate the notification.
   - Set the *Groups/Rooms* value for the notification. Select a group of rooms, a single room or all groups and rooms in the RMS system from the drop down menu. This field is required.
   - Set the *Users* value for the notification. Select a role or individual user in the RMS system from the drop down menu. This field is required.
   - Set the *Status Type* value for the notification. Select all status types or designate a specific status from the drop down menu. This field is required.
   - Select the delivery method for the notification. Place a check in each box to enable that option. These values correspond to those set for each user in RMS.
4. Click **Save** to save, **Cancel** to cancel.

Deleting a Notification

Security settings dictate your ability to add/modify/delete notifications for anyone or yourself.

1. Select *Management* > *Notifications* in the menu on the left side of the RMS application.
2. Within the *Manage Notifications Page* section on page 98, select *Delete* for the selected notification.

Changing The Domain Path for Notifications

By default, when a notification is sent out the link does not utilize the fully qualified domain name. You can change the domain path such that those outside of the immediate network can use the link. To change the host name:

1. Stop all RMS services.
2. Run C:\Program Files\ AMX Resource Management Suite\Scripts\RMS Hostname.vbs
3. Click **Yes**.
4. Enter the new hostname, e.g., rms.my-domain.com
5. Click **OK**.
6. Restart RMS services.

Manage Systems Page

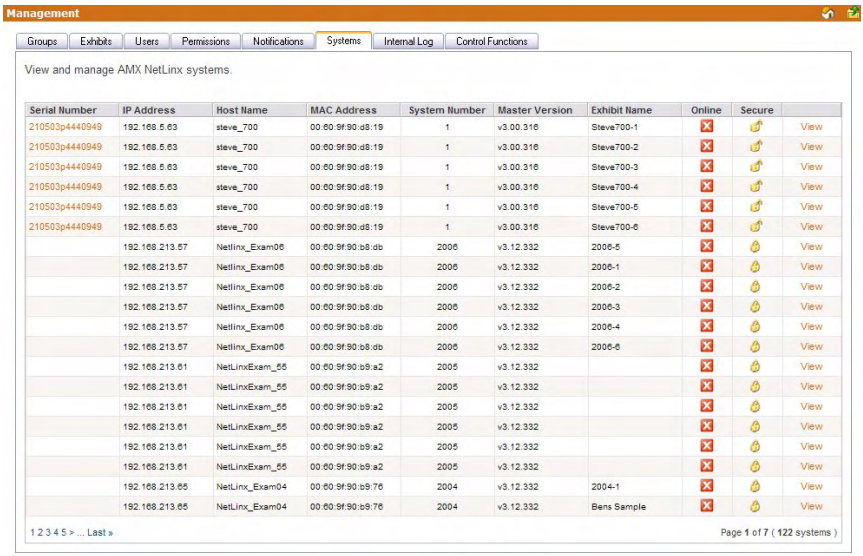


FIG. 29 Manage Systems Page

The Manage Systems page allows you to browse the NetLinx masters connected to the RMS application and inspect their configuration.

Manage Systems	
Serial Number	Serial Number associated with the room.
IP Address	IP Address associated with the room.
Host Name	Host Name associated with the room.
MAC Address	The MAC address associated with the room.
System Number	This is the system number of the NetLinx master. The system number is used in master-to-master configuration.
Master Version	This is the firmware version of the NetLinx master.
Room Name	The friendly name of the room in the event the NetLinx system is connected to the RMS application.
Online	Displays whether this NetLinx system is connected to the RMS application.
Secure	This displays a locked icon if both the Telnet and HTTP server are not open to anonymous access. An unlock icon means one or both of these services is available to any user.

Manage Systems (Cont.)	
View	This button provides more details on the NetLinx masters configuration. Launches the *View System Page*.

This table can be sorted by Serial Number, IP address, Host Name, System Number, Module Name, Master Version, and System Online.

View System Page

System Information	
Module Name	This is the name of the module on the NetLinx master.
Master Version	This is the firmware version of the NetLinx master.
Master Type	The model number of this master.
System Number	This is the system number of the NetLinx master. The system number is used in master-to-master configuration.
Serial Number	This is the serial number of the NetLinx master.
ICSP Port	This is the IP port currently used for ICSP communications. The default is 1319.
Telnet Port	This is the IP port currently used for Telnet communication. The default port is 23.
Telnet Security Enabled	The state of the telnet security settings
HTTP Port	This is the IP port currently used for HTTP communication. The default port is 80.
HTTP Security Enabled	The state of the HTTP security settings
Supports Welcome Images	This indicates if the NetLinx masters support Welcome Images. Specifically, this value is set when a G4 panel, which supports Welcome Images, has been added and programmed to display Welcome Images.
Can be Assigned to Room	This indicates whether the NetLinx master can be assigned to a room. If this value is set to NO, the NetLinx master will not appear in the list of available system in Add Room.
RMS SDK Version	This is the version of RMS code running in the NetLinx system.
RMS SDK Description	This is the description of the RMS code running in the NetLinx system.

IP Configuration	
DHCP/Static	Indicates the NetLinx master's IP address configuration type, either DHCP or static.
IP Address, Subnet Mask, Gateway, DNS List, Host Name, MAC Address	These are the IP settings of the NetLinx master. These values are the current settings of the master and are displayed whether the NetLinx master's IP address configuration is set for DHCP or Static.

IP Connection	
Connected From	The IP address the NetLinx system is using to connect to the RMS application. Normally, this is the same as the IP address with which the NetLinx system is configured. However, if the NetLinx system is behind a firewall or a router that provide NAT services, this IP address may be different than that above.
Connect via HTTP/FTP/Telnet	These links will open either a HTTP, FTP or Telnet window to the NetLinx master. These links can provide a quick way to modify a master configuration or view other information.

- **View Room** - Launches the *View Room Setting Page* section on page 82
- **Control Functions** - Launches the *Execute Control Function Page* section on page 63.

Viewing a System

1. Select *Management* > *Systems* in the menu on the left side of the RMS application.
2. Select the system you wish to view by either clicking the *Serial Number* or *View*. This launches the *View System Page* section on page 105.

Internal Log Export Page

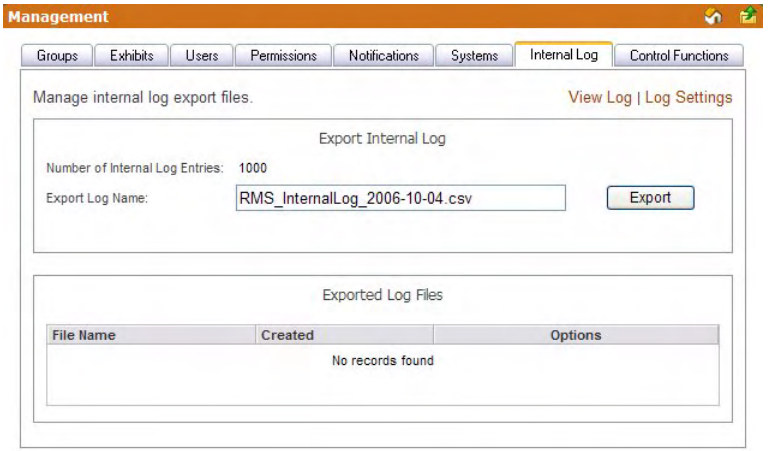


FIG. 30 Manage Internal Log Page

The Internal Log displays parameter changes that reached their thresholds for devices that are configured to report to the Internal Log. The Internal Log is a historical record of all faults on the RMS application system.

The Internal Log can be exported and saved on the server in a Comma Separated Value (CSV) formatted text file. This file can then be imported and formatted using other tools, such as Microsoft Excel®. The exported log files currently on the server are displayed on the Internal Log Settings page.

Manage Internal Log Export Files	
Number of Internal Log Entries	The number of Internal Log entries in the report for export.
Export Log Name	This file is stored on the server and can be downloaded and deleted.
Export	Exports current log entry.
Name	Name of the previously exported log file.
Created	The date the exported file was created.
Options	**View** - Launches the *Internal Log Report Page* section on page 160. **Delete** - Deletes the CSV file.

See Also...

Internal Log Report Page section on page 160

Configure Internal Log Page section on page 169

Exporting an Internal Log

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Export Page* section on page 107
2. Name your internal log file in the field *Export Log Name*.
3. Click **Export**.

Viewing Exported Internal Logs

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Export Page* section on page 107.
2. In the *Exported Log Files* section of the page, locate your log file and click *View.*

Deleting Exported Internal Logs

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Export Page* section on page 107.
2. In the *Exported Log Files* section of the page, locate your log file and click *Delete*.

Control Functions Page

The RMS application allows you to create control function (macros) that can be assigned to rooms and groups and scheduled to execute at specific times.

It is helpful to note that Control Function macros are a collection of ConnectLinx actions.

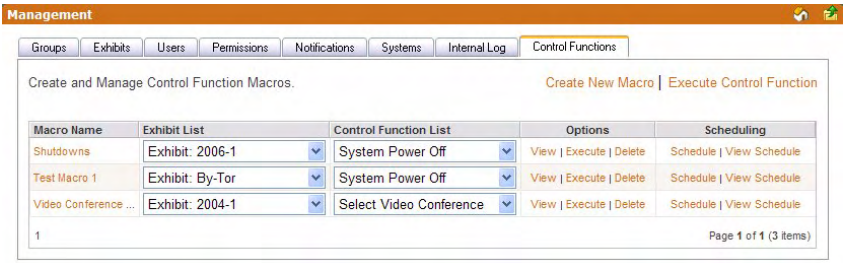


FIG. 31 Control Functions Macros Page

Control Functions Macros	
Macro Name	The friendly name of the macro.
Room List	A drop down list of the rooms associated with the macro.
Control Function List	A drop down list of the control functions associated with the macro.
Options	• **View** - Launches the *Edit Macro Page* section on page 111. • **Execute** - Executes the selected macro. • **Delete** - Deletes the selected macro.
Scheduling	• **Schedule** - Launches the *Schedule Macro Page* section on page 111. • **View Schedule** - Launches the *Control Function Macro Schedules Page*.

Create Control Function Macro Page

It is possible to create your own macros where you establish which rooms are affected and what actions are taken.

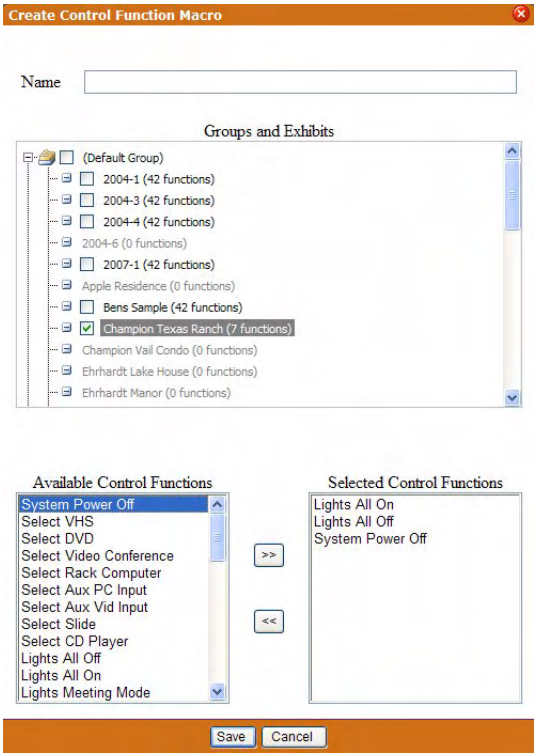


FIG. 32 Create Control Function Macro Page

Create Control Function Macro	
Name	The friendly name of the macro.
Groups and Rooms	A checkbox list of rooms and groups of rooms detected by RMS.
Available Control Functions	A list of ConnectLinx control functions for each device found in the room. If more than one room or group is selected, only functions common throughout all the selected rooms are displayed in this field.
Selected Control Functions	The list of selected ConnectLinx control functions that will make up the macro.
<< / >>	Moves a selected control function to the left and right adding or removing it from the macro list.

Edit Macro Page

The fields on the Edit Macro Page match those of the Create Control Function Macro Page (see FIG. 32).

This page allows you to add and remove rooms, groups and macros from an existing Control Function macro.

Edit Macro	
Name	The friendly name of the macro.
Groups and Rooms	A checkbox list of rooms and groups of rooms detected by RMS.
Available Control Functions	A list of ConnectLinx control functions for each device found in the room. If more than one room or group is selected, only functions common throughout all the selected rooms are displayed in this field.
Selected Control Functions	The list of selected ConnectLinx control functions that will make up the macro.
<< / >>	Moves a selected control function to the left and right adding or removing it from the macro list.

Schedule Macro Page

After you have created a Control Function macro you can schedule when it executes and opt to define it as being recurring.

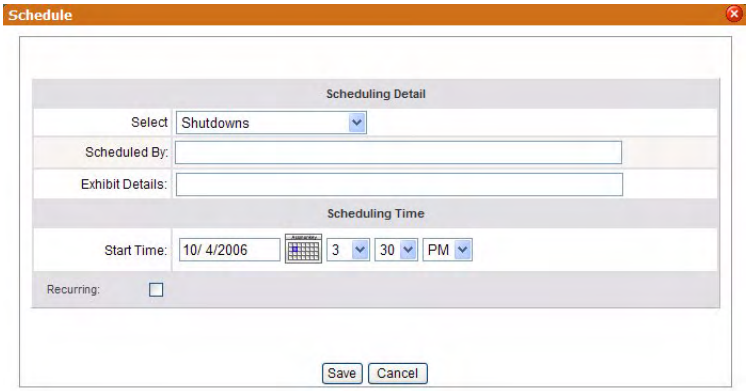


FIG. 33 Schedule Macro Page

Schedule Macro	
Select Macro:	A drop down list of available macros.
Scheduled By:	The user who has scheduled the macro to execute.
Subject:	A text field to provide descriptive information about why this macro has been scheduled.
Start Time:	A text field for the date (mm/dd/yyyy) the macro has been scheduled. You can click on the calendar icon to select the date. The three following drop down menus represent hour, minute, and designation for ante-meridiem vs. post-meridiem (AM/PM), in that order.
Enabled:	• **Make recurring** - When checked, this option makes the scheduled macro a recurring event.
Pattern:	
Daily	Makes the recurring scheduled macro a daily pattern. • **Every __ days(s)** - text field for number of days between daily recurring macro • **Every weekday** - executes the daily macro only Monday - Friday.
Weekly	Makes the recurring scheduled macro a weekly pattern. • **Every __ week(s)** - text field for number of weeks between weekly recurring macro Select the day the weekly scheduled macro is to execute; more than one day can be selected.
Monthly	Makes the recurring scheduled macro a monthly pattern. • **Day __ of every __ month(s)** - the drop down menus allow you to set what day of the month the recurring macro executes and the number of months between each execution. • **The __ __ of every __ month(s)** - this setting allows you to pick either the first, second, third, fourth, or last day of the week and the number of months between each execution.
Yearly	Makes the recurring scheduled macro a yearly pattern. • **Every __ __** - the drop down menus allow you to set the month and day the recurring macro executes. • **The __ __ of __** - this setting allows you to pick either the first, second, third, fourth, or last day of the week of a specified month.
Lifetime:	
No end date	The scheduled recurring macro does not end.
End after __ occurrences	The scheduled recurring macro ceases to run upon reaching the user defined parameter.
End by:	Either type the date the scheduled recurring macro is to end or select the date from the calendar icon.

Control Function Macro Schedules Page

This page lists all scheduled Control Function macros.

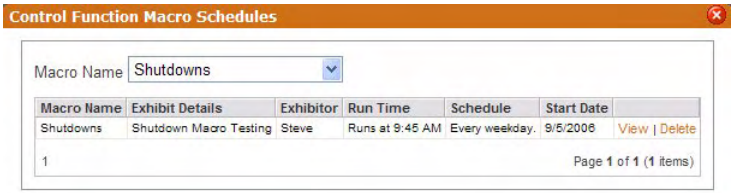


FIG. 34 Control Function Macro Schedules Page

Control Function Macro Schedules	
Select Macro	The friendly name of the macro. Select a specific macro from the drop down list to or select *All Macros* to display all scheduled macros.
Macro Name	The friendly name of the selected macro.
Subject	A text field to provide descriptive information about why this macro has been scheduled.
Organizer	The user who has scheduled the macro to execute.
Run Time	The time the macro is scheduled to run.
Schedule	The frequency with which the macro executes.
Start Date	The beginning date for the scheduled macro.
View	Launches the *Schedule Macro Page*.
Delete	Deletes the macro from the schedule.

Creating a new macro

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.
2. Click *Create New Macro*. This launches the *Create Control Function Macro Page* section on page 110.
3. Name the macro in the field *Name*.
4. Select the rooms and or groups included in the macro; this is done by placing a check in the box next to the group or room. Double-click groups to expand them.
5. The *Available Control Functions* window is populated by device control functions associated to your selected room. In the event you have more than one room selected, only functions that are shared in all rooms are shown.

Select a control function and move it to the *Selected Control Functions* window by clicking the **<<** button. Repeat as necessary.

6. Click **Save** to save, **Cancel** to cancel.

Viewing a macro

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.
2. Find your macro and click *View*. This launches the *Edit Macro Page* section on page 111.
3. Edit any of the following:
   - Rename the macro in the field *Name*.
   - Select or deselect the rooms and or groups included in the macro; this is done by placing a check in the box next to the group or room (include). Removing the check in the box next to the group or room (remove). Double-click groups to expand them.
   - The *Available Control Functions* window is populated by device control functions associated to your selected room. In the event you have more than one room selected, only functions that are shared in all rooms are shown.
     Select a control function and move it to the *Selected Control Functions* window by clicking the **>>** button. Repeat as necessary.
   - To remove a function, select a control function in the *Selected Control Functions* window and move it to the *Available Control Functions* window by clicking the **<<** button. Repeat as necessary.
4. Click **Save** to save, **Cancel** to cancel.

Executing a macro

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.
2. Find your macro and click *Execute*.

Deleting a macro

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.

2. Find your macro and click *Delete*.

Scheduling a macro

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.
2. Find your macro and click *Schedule*. This launches the *Schedule Macro Page* section on page 111.
3. Confirm the selected macro is listed in the drop down menu *Select Macro*.
4. Type the name or title of the person scheduling the macro in the field *Scheduled By.*
5. Type a brief description or explanation in the field *Subject*.
6. Set the *Start Time* for the macro.
7. If this a recurring macro, check the box next to *Recurring* to enable and continue on; otherwise, you can click **Save** to save, **Cancel** to cancel.
8. Set the pattern for the macro.
9. Set the lifetime for the macro.
10. Click **Save** to save, **Cancel** to cancel.

Viewing a macro schedule

1. Select *Management* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Control Functions Page* section on page 109.
2. Find your macro and click *View Schedule*. This launches the *Control Function Macro Schedules Page* section on page 113.
3. Confirm the selected macro is listed in the drop down menu *Macro Name*.

Reporting Page

System Reports Page

The RMS applications support a variety of different reports designed to help you diagnose and improve the user's experience with the system network. The system reports are organized into the following categories: *Room Reports, Power Reports, Quality of Service Reports,* or *Organizer Reports*.

Each report is rendered and displayed on the *Report View* page. While the information varies based on the report run, your options are always the same. You can output the report the following ways.

Note: Popup pages must be enabled on the web browser to export or print system reports.

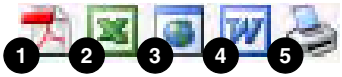


FIG. 35 Report Output Options

1 - Generates a PDF version of the report.

2 - Generates a Excel version of the report.

3 - Generates a HTML version of the report.

4 - Generates a Word version of the report.

5 - Prints the report.

Room Reports

Help Requests

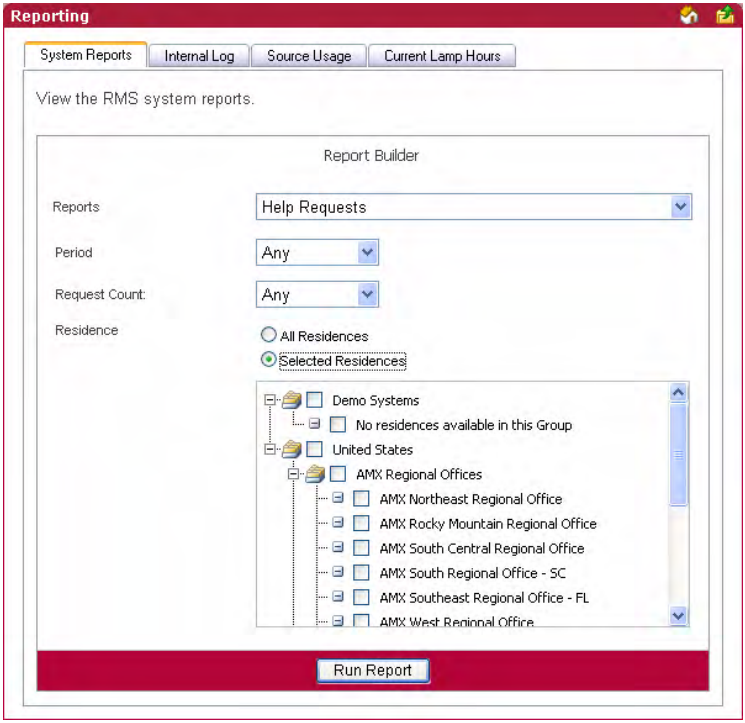


FIG. 36 Help Requests

This report provides a count of all help requests entered by an organizer within the parameters designated.

Help Requests	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Help Requests (Cont.)	
Options	**Request Count:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Help Requests Results* section on page 119

Help Requests Results

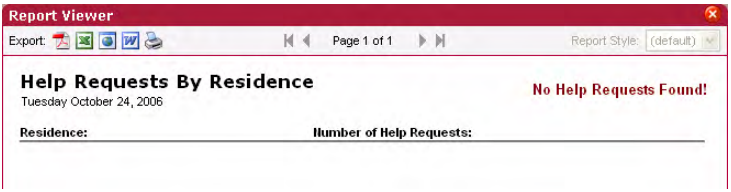


FIG. 37 Help Requests Results

Help Requests Results	
Residence	The rooms where the requests occurred.
Number of Help Requests	The number of request instances within the designated parameters.

Help Requests (Detailed)

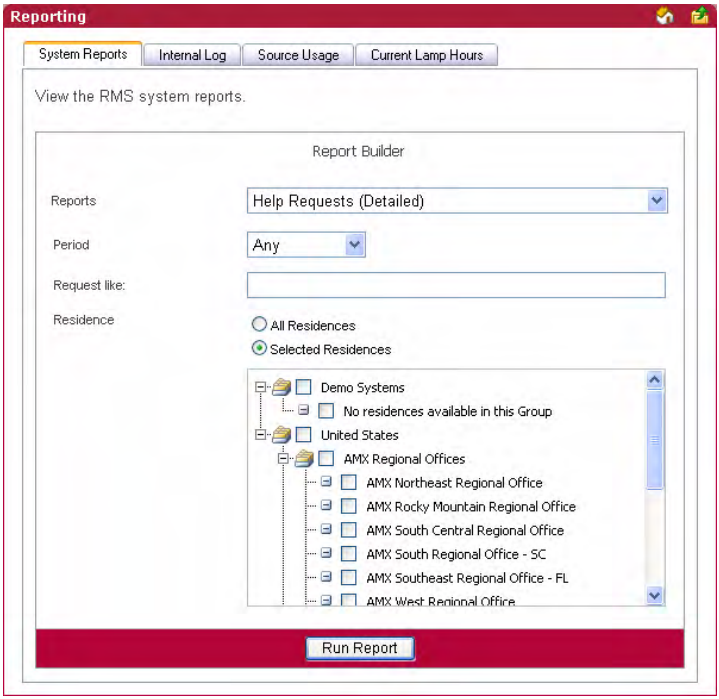


FIG. 38 Help Requests (Detailed)

This report provides a list of all help requests entered by an organizer within the designated parameters plus the qualifier *Request like*.

Help Requests (Detailed)	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Help Requests (Detailed) (Cont.)	
Options	**Request like** - A keyword search for specific requests.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Help Requests (Detailed) Results* section on page 121

Help Requests (Detailed) Results

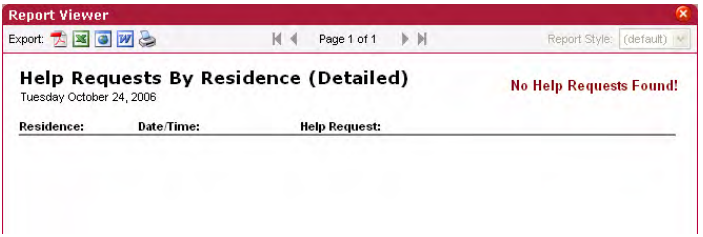


FIG. 39 Help Requests (Detailed) Results

Help Requests (Detailed) Results	
Residences	The rooms where the requests occurred.
Date/Time	The date and time the request occurred.
Help Request	The help request that occurred.

Residence Usage

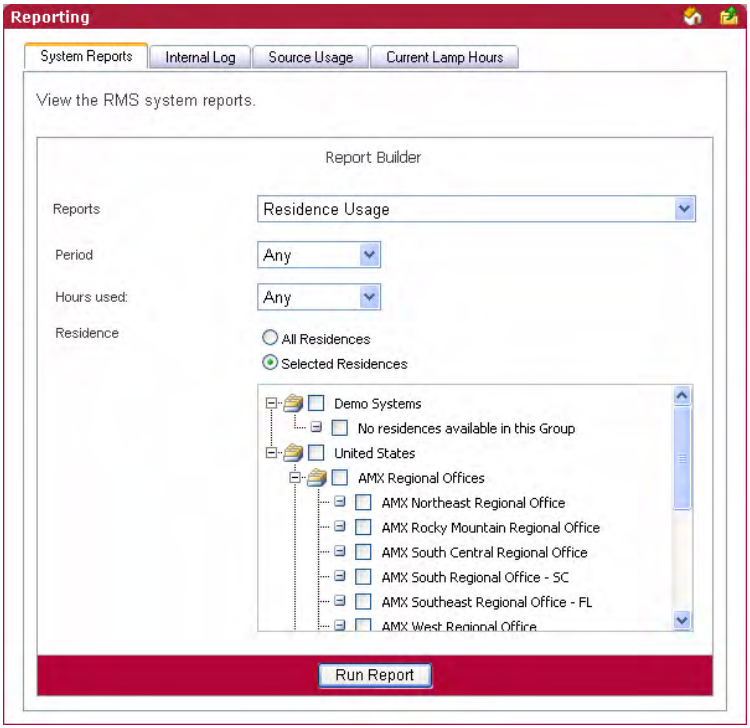


FIG. 40 Residence Usage

This report provides the number of hours all rooms included in the report have been scheduled via the RMS application's scheduling feature within the parameters specified. If the scheduling features of the RMS application are not being used, this report will not contain any useful data.

Residence Usage	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Residence Usage (Cont.)	
Options	**Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Residence Usage Results* section on page 123

Residence Usage Results

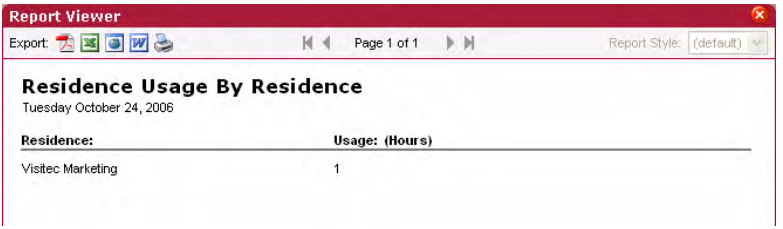


FIG. 41 Residence Usage Results

Residence Usage Results	
Residence	The rooms being tracked for usage.
Usage	The amount of time, in hours, the room has been in use.

Source Usage

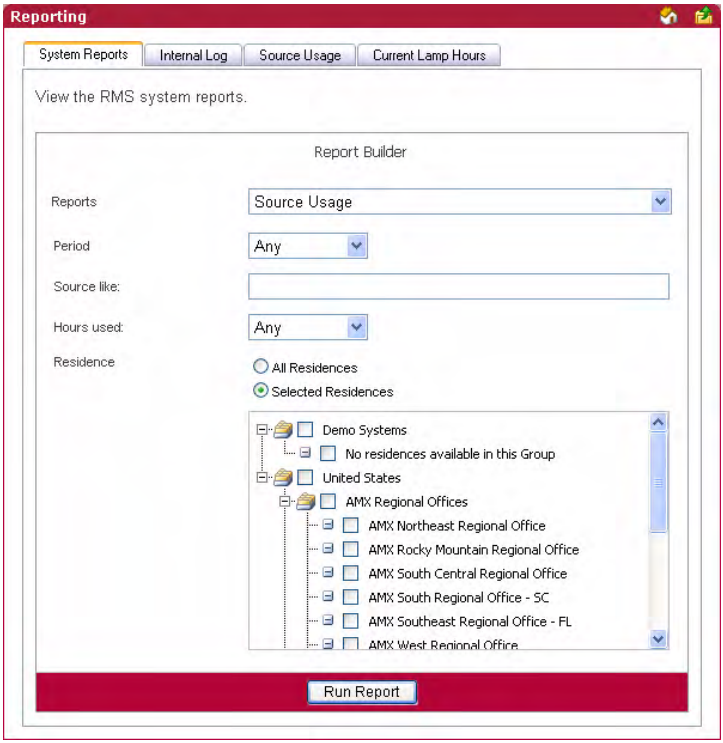


FIG. 42 Source Usage

This report provides the number of hours an organizer has used a source within any given room and any number of sources available.

Source Usage	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Source Usage (Cont.)	
Options	**Source like** - A keyword search for specific source items. **Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Source Usage Results* section on page 125

Source Usage Results

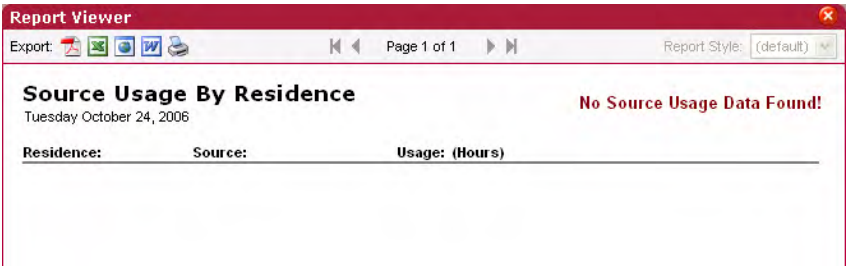


FIG. 43 Source Usage Results

Source Usage Results	
Room	The rooms being tracked for usage.
Source	The source in use.
Usage	The amount of time, in hours, the source has been in use.

Lamp Hours

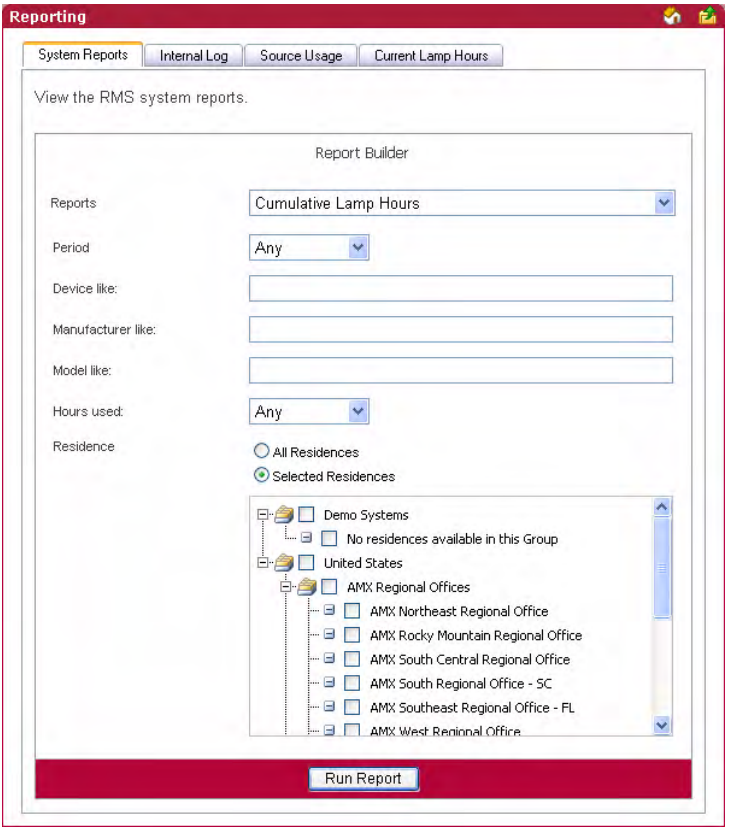


FIG. 44 Lamp Hours

This report provides the number of hours a projector lamp was powered on within the designated parameters for all rooms included in the report.

Lamp Hours	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.
Options	**Device like** - A keyword search for specific device items. **Manufacturer like** - A keyword search for specific manufacturer name. **Model like** - A keyword search for specific model type. **Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Lamp Hours Results* section on page 128

Lamp Hours Results

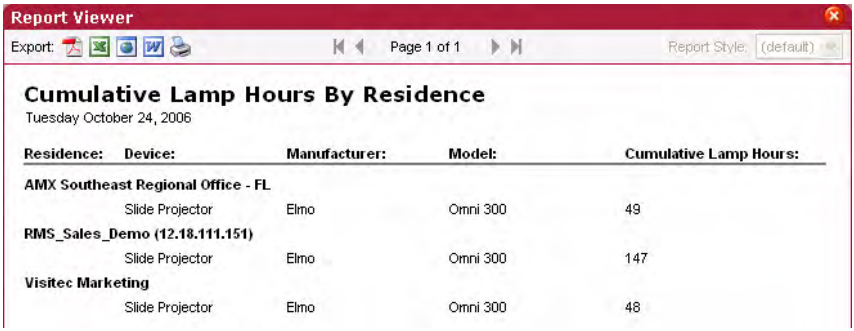


FIG. 45 Lamp Hours Results

Lamp Hours Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
Manufacturer	The manufacturer name of the device.
Model	The model of the device.
Lamp Hours	The amount of time, in hours, the device has been in use.

Transport Run Time

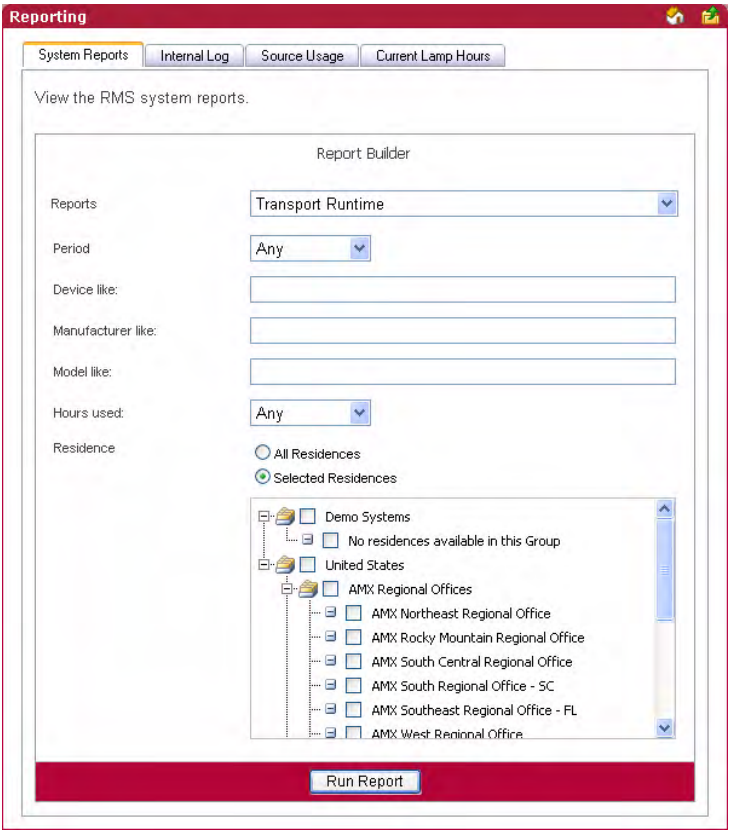


FIG. 46 Transport Run Time

This report provides the number of hours a transport device was running between the start and end dates for all rooms included in the report.

Transport Run Time	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.
Options	**Device like** - A keyword search for specific device items. **Manufacturer like** - A keyword search for specific manufacturer name. **Model like** - A keyword search for specific model type. **Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Transport Run Time Results* section on page 131

Transport Run Time Results

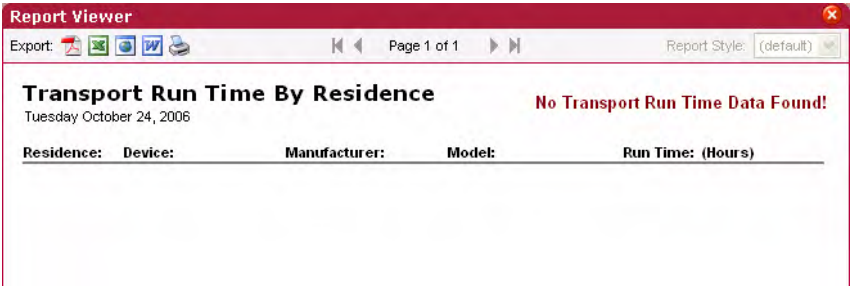


FIG. 47 Transport Run Time Results

Lamp Hours Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
Manufacturer	The manufacturer name of the device.
Model	The model of the device.
Run Time	The amount of time, in hours, the transport device has been in use.

Power Reports

System Power

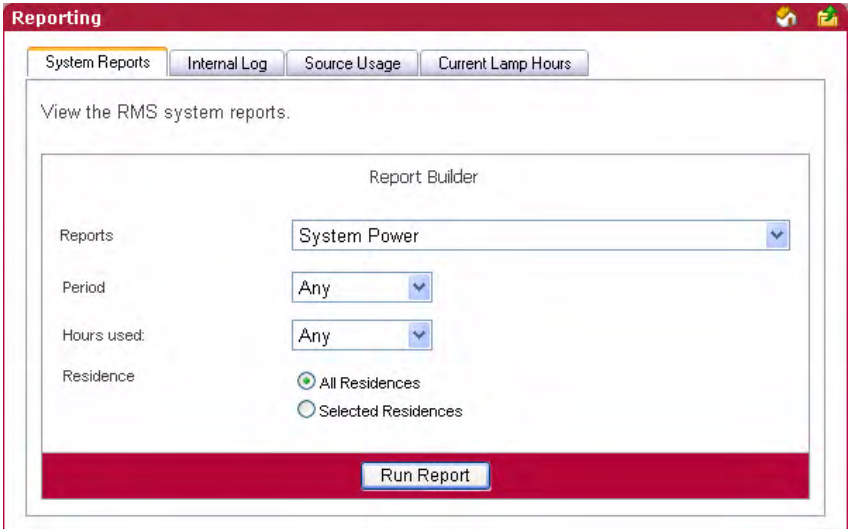


FIG. 48 System Power

This report provides the number of hours each system has been powered on within the parameters for all rooms included in the report.

System Power	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

System Power (Cont.)	
Options	**Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *System Power Results* section on page 133

System Power Results

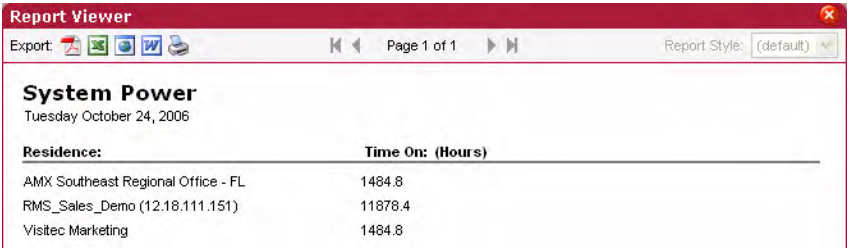


FIG. 49 System Power Results

System Power Results	
Residence	The rooms being tracked for usage.
Time On (Hours)	The amount of time, in hours, the system has been in use.

Device Power

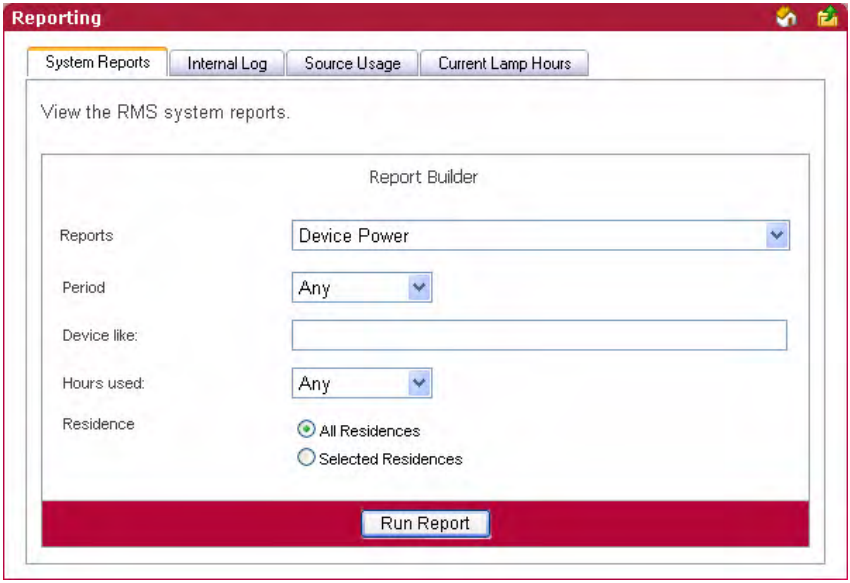


FIG. 50 Device Power

This report provides the number of hours a device has been powered on within the parameters for all devices in all rooms included in the report.

Device Power	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Device Power (Cont.)	
Options	**Device like** - A keyword search for specific device items. **Hours used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Device Power Results* section on page 135

Device Power Results

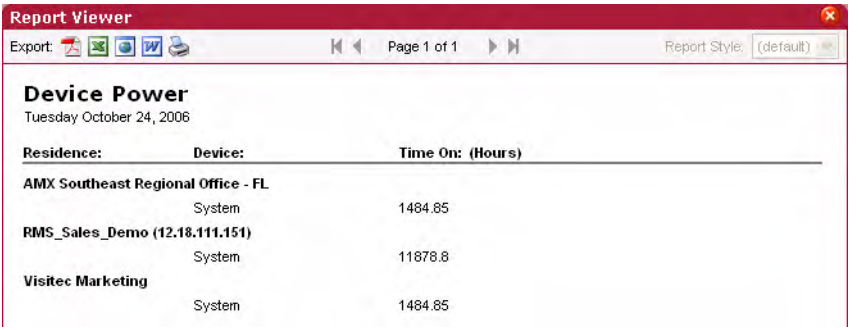


FIG. 51 Device Power Results

Device Power Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
Time On (Hours)	The amount of time, in hours, the device has been in use.

System Power (Detailed)

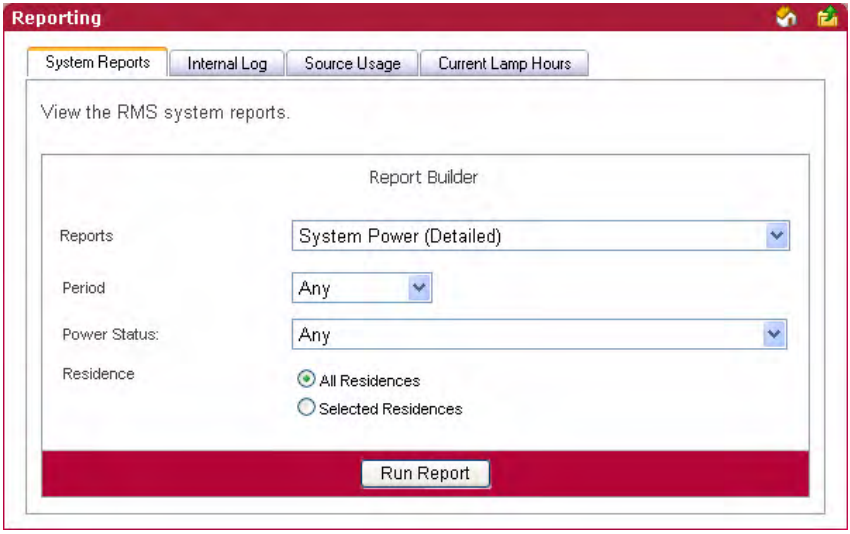


FIG. 52 System Power (Detailed)

This report provides the times each system was turned on or off between the start and end dates for all rooms included in the report. This report includes a large quantity of data, it is recommended that you run this report for a single room and/or a short reporting period.

System Power (Detailed)	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

System Power (Detailed) (Cont.)	
Options	**Device like** - A keyword search for specific device items. **Power Status** - A drop down selection; your choices are On and Off.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *System Power (Detailed) Results* section on page 137

System Power (Detailed) Results

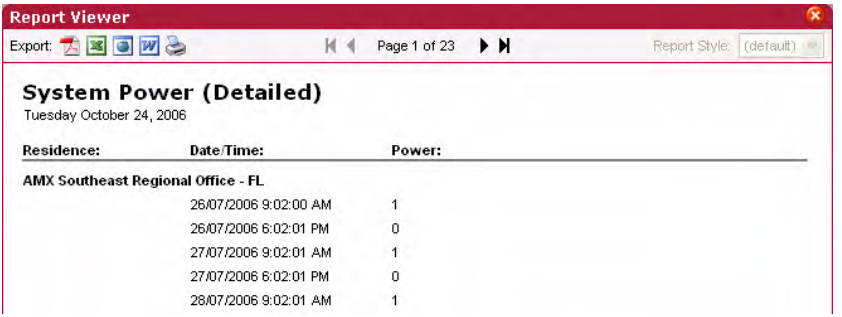


FIG. 53 System Power (Detailed) Results

System Power (Detailed) Results	
Residence	The rooms being tracked for usage.
Date/Time	The date and time the system power change occurred.
Power	The status of the power, on or off.

Device Power (Detailed)

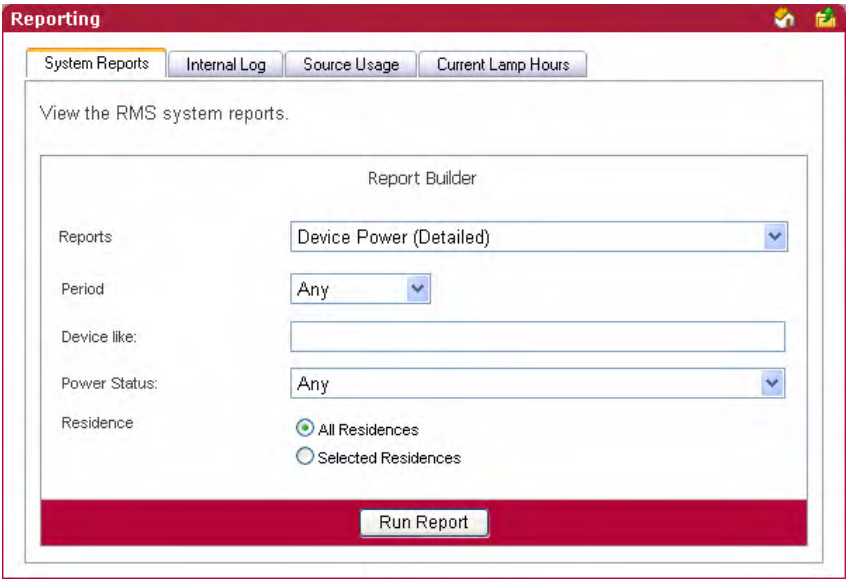


FIG. 54 Device Power (Detailed)

This report provides the times each device was turned on or off between the start and end dates for all devices in all rooms included in the report. This report includes a large quantity of data, it is recommended that you run this report for a single room and/or a short reporting period.

Device Power (Detailed)	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Device Power (Detailed) (Cont.)	
Options	A drop down selection for device status; your choices are On and Off.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Device Power (Detailed) Results* section on page 139

Device Power (Detailed) Results

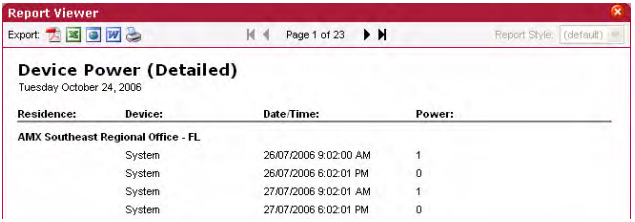


FIG. 55 Device Power (Detailed) Results

Device Power (Detailed) Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
Date/Time	The date and time the device power change occurred.
Power	The status of the device power, on or off.

Quality of Service Reports

System Online

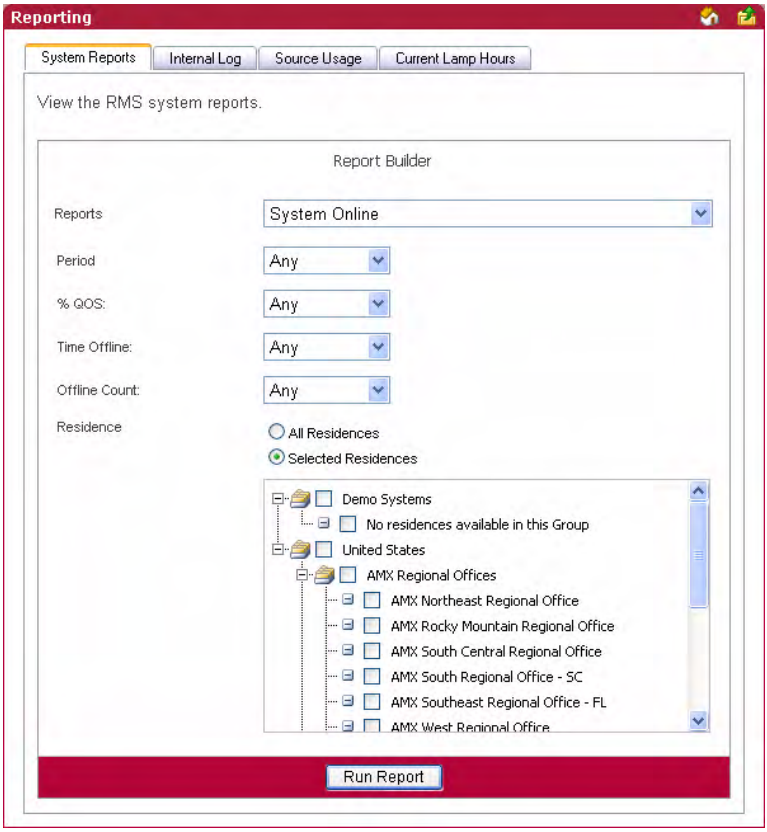


FIG. 56 System Online

This report provides the count, number of minutes, and quality of service for each NetLinx system that reported *Offline* between the start and end dates for all rooms included in the report. This report is based on the "System Online" parameter.

System Online	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.
Options	**% QOS (Percentage of Quality of Service):** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances. **Time Offline:** **>=** - Selects all times offline that are greater than and equal to the number you place in the field. **=** - Selects all times offline that are equal to the number you place in the field. **<=** - Selects all time offline that are less than and equal to the number you place in the field. **Between** - Selects all times offline that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all times offline. **Offline Count:** **>=** - Selects all time offline counters that are greater than and equal to the number you place in the field. **=** - Selects all time offline counters that are equal to the number you place in the field. **<=** - Selects all time offline counters that are less than and equal to the number you place in the field. **Between** - Selects all time offline counters that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all time offline counters.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *System Online Results* section on page 142

System Online Results

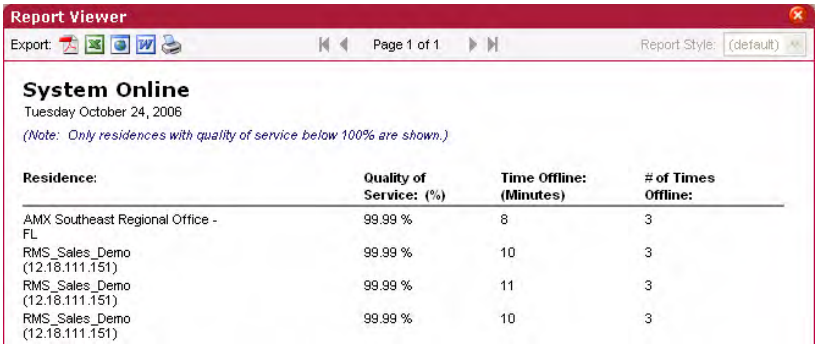


FIG. 57 System Online Results

System Online Results	
Residence	The rooms being tracked for usage.
Quality of Service (%)	The percentage of quality of service.
Time Offline (Minutes)	The amount of time, in minutes, the system is offline.
# of Times Offline	The number of times the system has reported offline.

Device Online

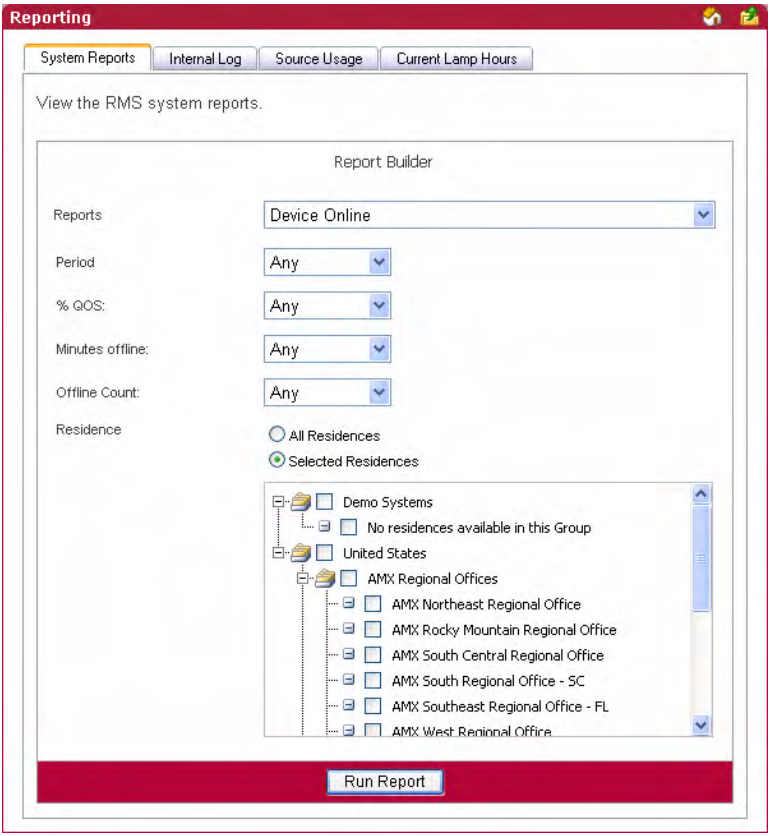


FIG. 58 Device Online

This report provides the count, number of minutes, and quality of service for each NetLinx device that reported *Offline* between the start and end dates for all rooms included in the report. This report is based on the *Device Online* parameter.

Device Online	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.
Options	**% QOS (Percentage of Quality of Service):** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances. **Minutes Offline:** **>=** - Selects all times offline that are greater than and equal to the number you place in the field. **=** - Selects all times offline that are equal to the number you place in the field. **<=** - Selects all time offline that are less than and equal to the number you place in the field. **Between** - Selects all times offline that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all times offline. **Offline Count:** **>=** - Selects all time offline counters that are greater than and equal to the number you place in the field. **=** - Selects all time offline counters that are equal to the number you place in the field. **<=** - Selects all time offline counters that are less than and equal to the number you place in the field. **Between** - Selects all time offline counters that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all time offline counters.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Device Online Results* section on page 145

Device Online Results

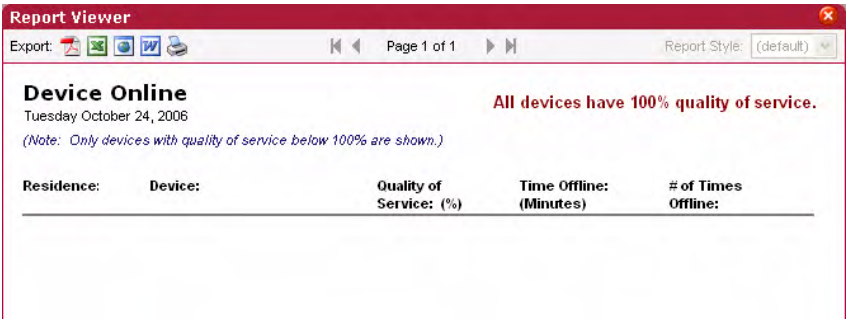


FIG. 59 Device Online Results

Device Online Results	
Residence	The rooms being tracked for usage.
Device	The name of the device reporting online.
Quality of Service (%)	The percentage of quality of service.
Time Offline (Minutes)	The amount of time, in minutes, the device is offline.
# of Times Offline	The number of times the device has reported offline.

Device Communications

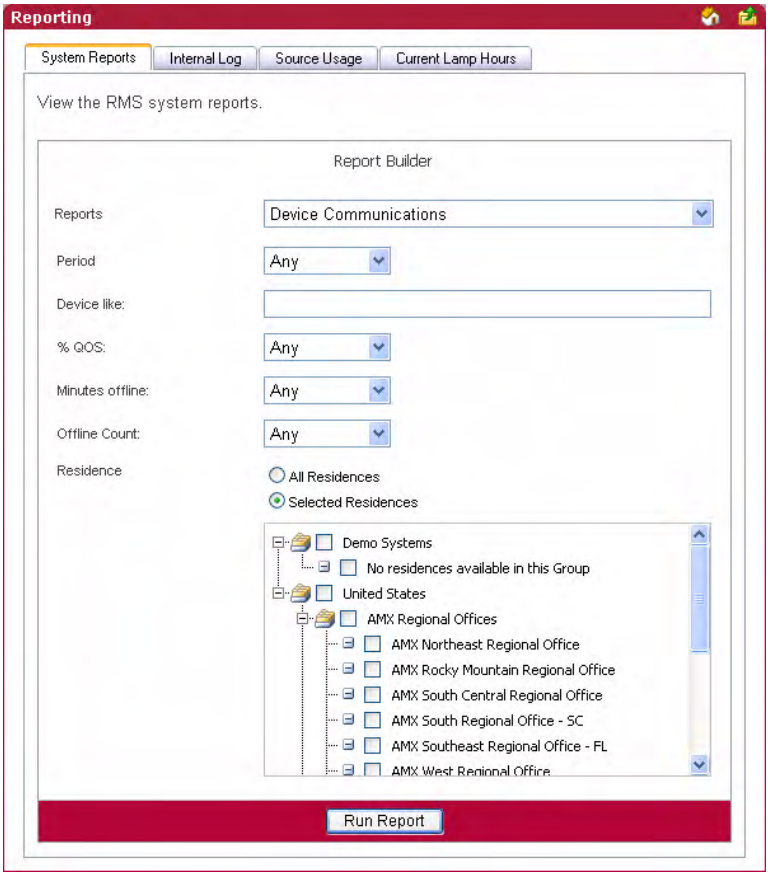


FIG. 60 Device Communications

This report provides the count, number of minutes, and quality of service for each NetLinx device that was not able to communicate within the parameters for all rooms included in the report. This report is based on the *Device Communicating* parameter.

Device Communications	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.
Options	**Device like** - A keyword search for specific device items. **% QOS (Percentage of Quality of Service):** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances. **Minutes Offline:** **>=** - Selects all times offline that are greater than and equal to the number you place in the field. **=** - Selects all times offline that are equal to the number you place in the field. **<=** - Selects all time offline that are less than and equal to the number you place in the field. **Between** - Selects all times offline that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all times offline. **Offline Count:** **>=** - Selects all time offline counters that are greater than and equal to the number you place in the field. **=** - Selects all time offline counters that are equal to the number you place in the field. **<=** - Selects all time offline counters that are less than and equal to the number you place in the field. **Between** - Selects all time offline counters that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all time offline counters.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Device Communications Results* section on page 148

Device Communications Results

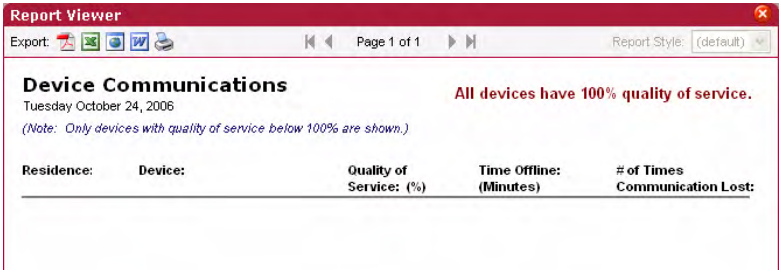


FIG. 61 Device Communications Results

Device Communications Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
Quality of Service (%)	The percentage of quality of service.
Time Offline (Minutes)	The amount of time, in minutes, the device communications are offline.
# of Times Communications Lost	The number of times the communications has reported offline.

Device Control Failures

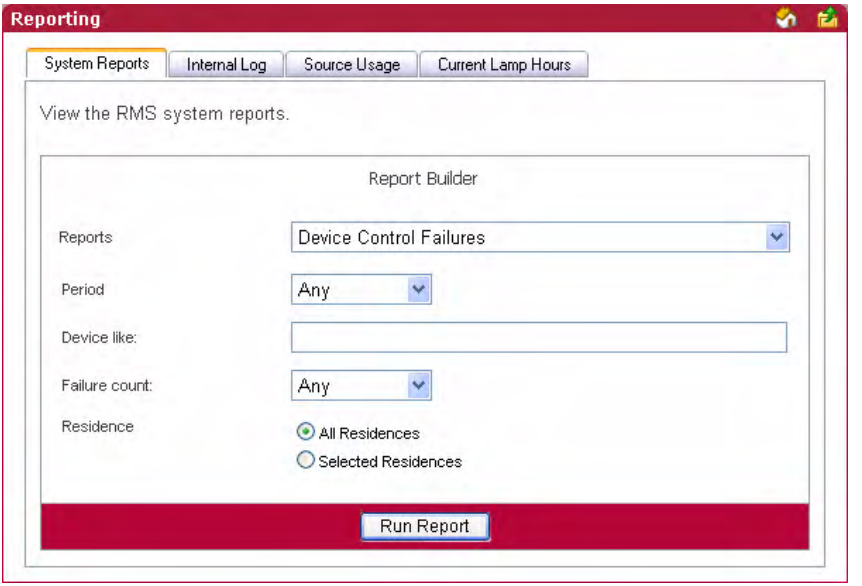


FIG. 62 Device Control Failures

This report provides the count for each device NetLinx was not able to control within the parameters for all rooms included in the report. This report is based on the *Control Failure* parameter.

Device Control Failures	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Device Control Failures (Cont.)	
Options	**Device like** - A keyword search for specific device items. **Failure Count:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Device Control Failures Results* section on page 150

Device Control Failures Results

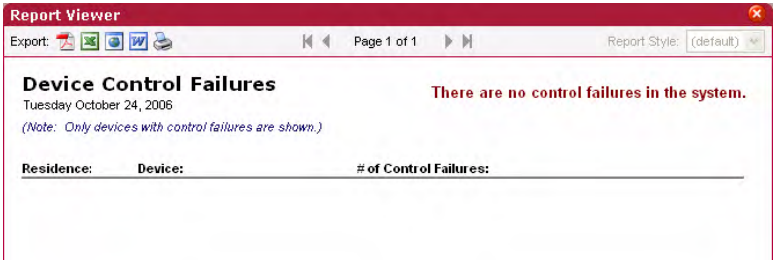


FIG. 63 Device Control Failures Results

Device Control Failures Results	
Residence	The rooms being tracked for usage.
Device	The device in use.
# of Control Failures	The number of times a device control failure was detected.

Organizer Reports

Help Requests

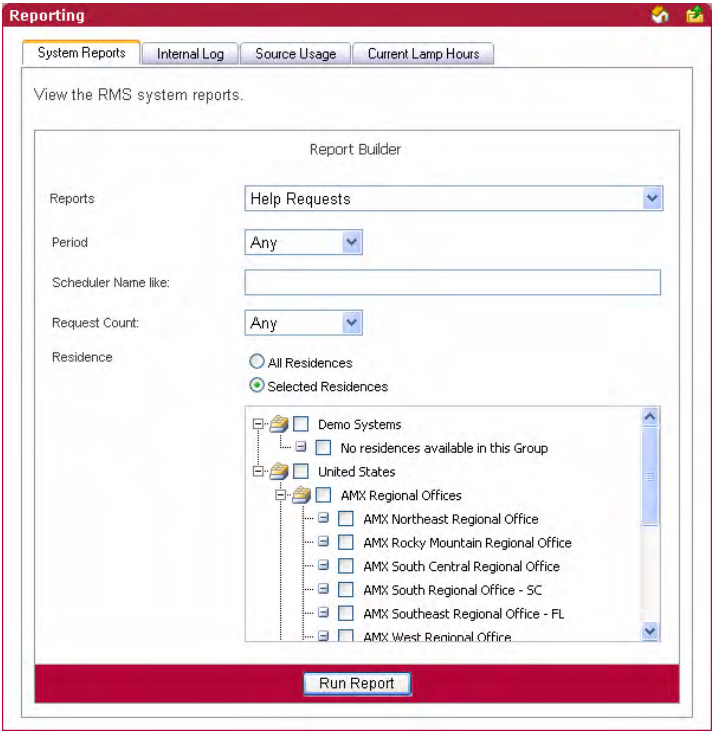


FIG. 64 Help Requests

This report provides a count of all help entered by any user within the parameters for all rooms included in the report.

Help Requests	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Help Requests (Cont.)	
Options	**Organizer Name like** - A keyword search for specific organizers. **Request Count:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Help Requests Results* section on page 152

Help Requests Results

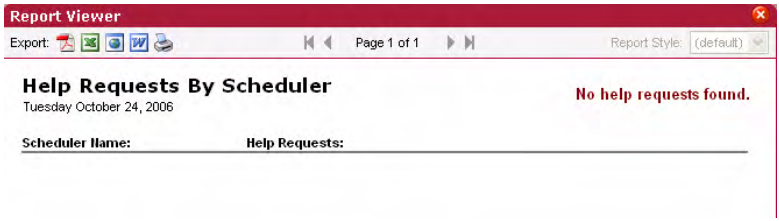


FIG. 65 Help Requests Results

Help Requests Results	
Scheduler Name	The name of the organizer placing the help request.
Help Requests	The number of help requests placed by the organizer.

Help Requests (Detailed)

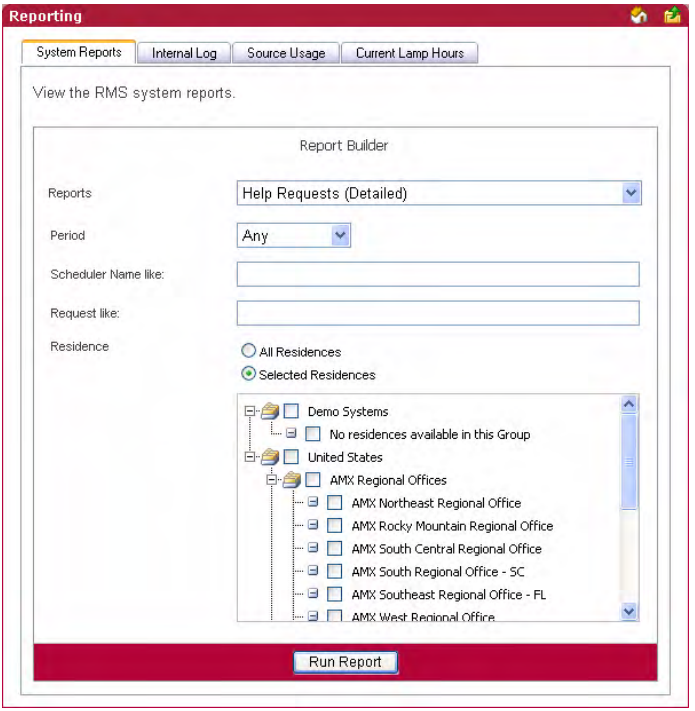


FIG. 66 Help Requests (Detailed)

This report provides a list of all help entered by any user within the parameters for all rooms included in the report.

Help Requests (Detailed)	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Help Requests (Detailed) (Cont.)	
Options	**Scheduler Name like** - A keyword search for specific organizers. **Request like -** A keyword search for specific help requests.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Help Requests (Detailed) Results* section on page 154

Help Requests (Detailed) Results

FIG. 67 Help Requests (Detailed) Results

Help Requests (Detailed) Results	
Scheduler Name	The name of the organizer placing the help request.
Date/Time	The date and time the help request occurred.
Help Request	The text of each particular help request.

Residence Usage

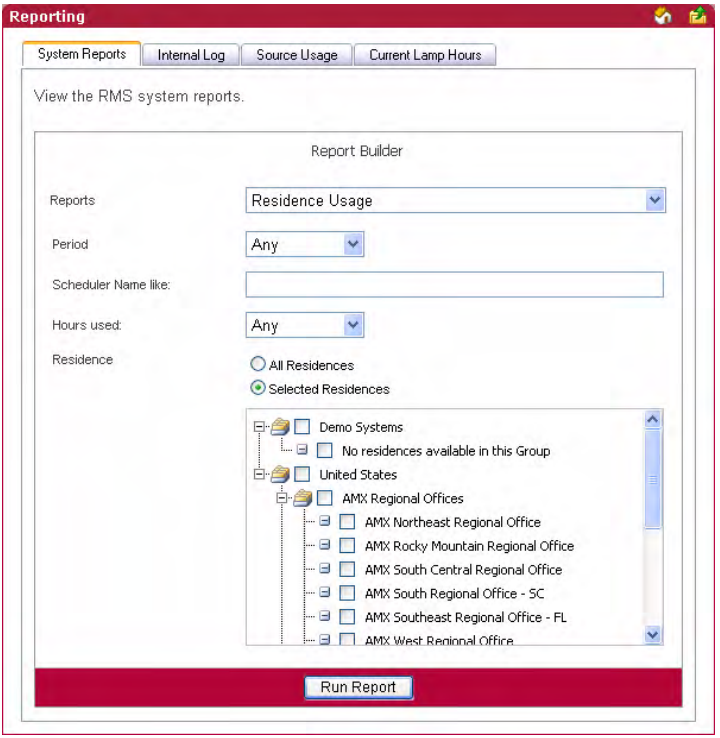


FIG. 68 Residence Usage

This report provides the number of hours a room has been scheduled via the RMS application's scheduling feature for all rooms within the parameters for all rooms included in the report. If the scheduling features of the RMS application are not being used, this report will not contain any useful data.

Residence Usage	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Residence Usage (Cont.)	
Options	**Organizer Name like** - A keyword search for specific organizers. **Hours Used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Residence Usage Results* section on page 156

Residence Usage Results

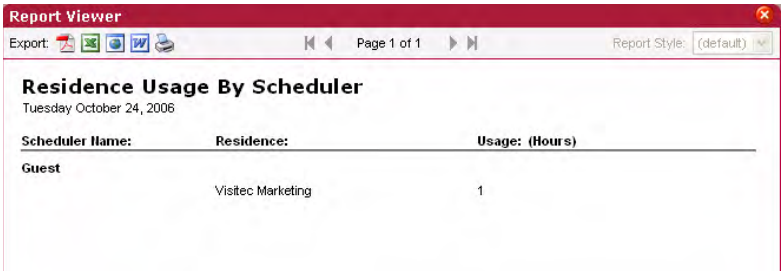


FIG. 69 Residence Usage Results

Residence Usage Results	
Scheduler Name	The name of the organizer placing the help request.
Residence	The rooms being tracked for usage.
Usage	The amount of time, in hours, the organizer has used that room.

Source Usage

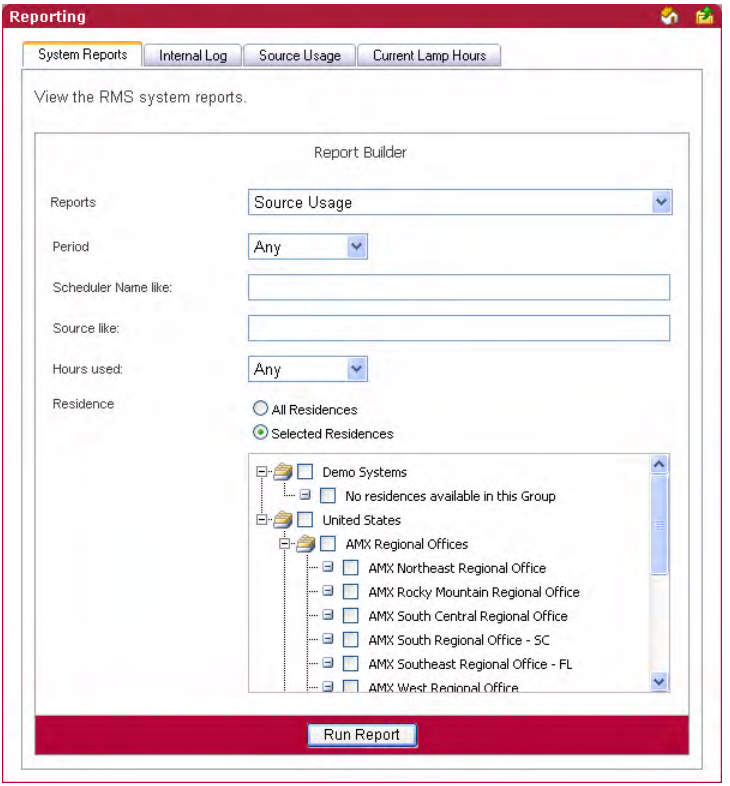


FIG. 70 Source Usage

This report provides the number of minutes a source has been selected, i.e., viewed, for all sources in all rooms within the parameters for all rooms included in the report.

Source Usage	
Period	The time parameter the report is to run within. Click the calendar(s) to select a date; otherwise, type the date in the field provided. **On/After** - Selects all instances on or after the designated date. **On** - Selects all instances on the designated date. **On/Before** - Selects all instances on or before the designated date. **Between** - Selects all instances between the designated dates. **Any** - Selects all instances.

Source Usage (Detailed) (Cont.)	
Options	**Organizer Name like** - A keyword search for specific organizers. **Source like** - A keyword search for a specific source. **Hours Used:** **>=** - Selects all instances that are greater than and equal to the number you place in the field. **=** - Selects all instances that are equal to the number you place in the field. **<=** - Selects all instances that are less than and equal to the number you place in the field. **Between** - Selects all instances that are greater than and equal to the number you place in the field but less than and equal to the other number. **Any** - Selects all instances.
Residence	Select either *All Residences* or *Selected Residences*. The latter provides a list of rooms and groups available within the RMS system.
Run Report	Generates the report. *Source Usage Results* section on page 158

Source Usage Results

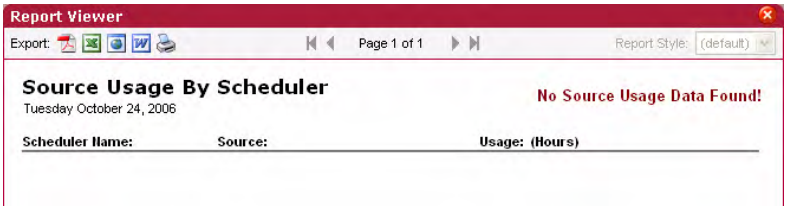


FIG. 71 Source Usage Results

Source Usage Results	
Scheduler Name	The name of the organizer placing the help request.
Source	The name of the source used by the organizer.
Usage (Hours)	The amount of time, in hours, the organizer has used that source.

Running a System Report

1. Select *Reporting* > *System Reports* in the menu on the left side of the RMS application. This launches the *System Reports Page* section on page 117.
2. Select one of the following *Reports* from the drop down men:
   - *Help Requests* section on page 118
   - *Help Requests (Detailed)* section on page 120
   - *Residence Usage* section on page 122
   - *Source Usage* section on page 124
   - *Lamp Hours* section on page 126
   - *Transport Run Time* section on page 129
   - *System Power* section on page 132
   - *Device Power* section on page 134
   - *System Power (Detailed)* section on page 136
   - *Device Power (Detailed)* section on page 138
   - *System Online* section on page 140
   - *Device Online* section on page 143
   - *Device Communications* section on page 146
   - *Device Control Failures* section on page 149
   - *Help Requests* section on page 151
   - *Help Requests (Detailed)* section on page 153
   - *Residence Usage* section on page 155
   - *Source Usage* section on page 157
3. Enter the parameters for the report.
4. Click **Run Report**.

Internal Log Report Page

The Internal Log displays parameter changes that reached their thresholds for devices that are configured to report to the Internal Log. The Internal Log is a historical record of all faults on the RMS application system.

Internal Log Report	
Status Type	The type of notification logged.
Server Time	The time on the server the notification was created.
Room	The friendly name of the room where the notification originated.
Device	The device generating the notification.
Parameter	The parameter threshold that necessitated the notification.
Log Message	An abridged version of the message notification logged.
Options	**View** - Launches the *Internal Log Entry Page* section on page 161. **Delete** - Deletes the selected log entry.

This table can be sorted by Server Time, Room Name, Device Name, Parameter Name, and Status Type.

You can manage notes for a particular item on the log message screen. The RMS application automatically includes the name and date the note was added.

The Internal Log can be exported and saved on the server in a Comma Separated Value (CSV) formatted text file. This file can then be imported and formatted using other tools, such as Microsoft Excel®. The exported log files currently on a server are displayed on the Internal Log Settings page.

See Also...

Internal Log Export Page section on page 107.

Configure Internal Log Page section on page 169

Internal Log Entry Page

The Internal Log Entry page provides detailed information for each log entry on the RMS server.

Internal Log Entry	
Status Type	The type of notification logged.
Server Time	The time on the server the notification was created.
Room	The friendly name of the room where the notification originated.
Device	The device generating the notification.
Parameter	The parameter threshold that necessitated the notification.
Description	A brief description of the notification.
Add Note:	
Username:	The user currently logged into this RMS session.
Description:	Text field for the user to add information for the notification.

Viewing Log entries

1. Select *Reporting* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Report Page* section on page 160.
2. Select your log entry from the list and click *View*. This launches the *Internal Log Entry Page* section on page 161.

Adding notes to Log entries

1. Select *Reporting* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Report Page* section on page 160.
2. Select your log entry from the list and click *View*. This launches the *Internal Log Entry Page* section on page 161.
3. The *Username* field is populated based on who is logged into RMS. Type your note in the field *Description*.
4. Click **Save Note**, and repeat as necessary.
5. Click **Done**.

Deleting Log entries

1. Select *Reporting* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Internal Log Report Page* section on page 160.
2. Select your log entry from the list and click *Delete*.

Source Usage Page

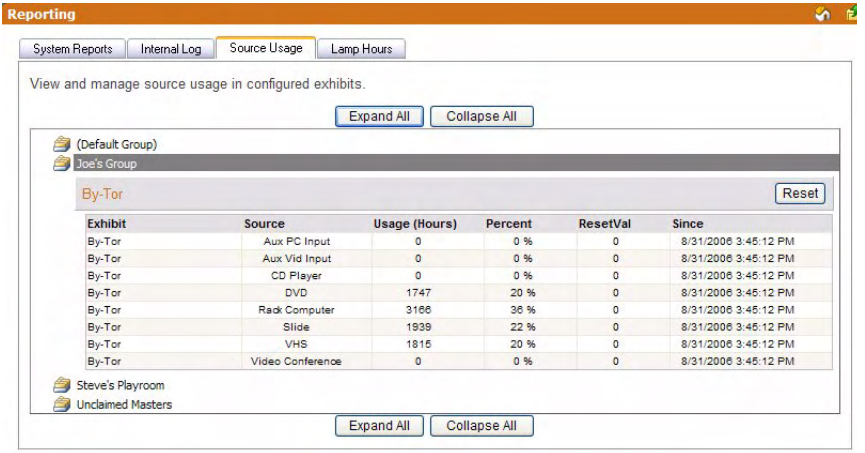

Reporting
System Reports
Internal Log
Source Usage
Lamp Hours
View and manage source usage in configured exhibits.
Expand All
Collapse All
(Default Group)
Joe's Group
By-Tor
Reset
Exhibit Source Usage (Hours) Percent ResetVal Since
By-Tor Aux PC Input 0 0 % 0 8/31/2006 3:45:12 PM
By-Tor Aux Vid Input 0 0 % 0 8/31/2006 3:45:12 PM
By-Tor CD Player 0 0 % 0 8/31/2006 3:45:12 PM
By-Tor DVD 1747 20 % 0 8/31/2006 3:45:12 PM
By-Tor Rack Computer 3166 36 % 0 8/31/2006 3:45:12 PM
By-Tor Slide 1939 22 % 0 8/31/2006 3:45:12 PM
By-Tor VHS 1815 20 % 0 8/31/2006 3:45:12 PM
By-Tor Video Conference 0 0 % 0 8/31/2006 3:45:12 PM
Steve's Playroom
Unclaimed Masters
Expand All
Collapse All

FIG. 72 Source Usage Page

Display current source usage for all rooms. Rooms are displayed in a tree view based on groups. **Expand all** to see all rooms, **Collapse all** to collapse all groups.

For each source:

Source Usage	
Source	Name of source.
Usage	Usage, in hours, of the source since date/time listed in Since column
Percent	% of total system usage this represents based on systems power since the date/time in the Since column.
ResetVal	The number of times the source usage has been reset.
Since	Date/Time this value was last reset.

The **Reset** button resets the room's source usage.

Viewing Source Usage reports

1. Select *Reporting* > *Source Usage* in the menu on the left side of the RMS application. This launches the *Source Usage Page* section on page 163.
2. Locate the room for which you want a source usage report; double click groups to expand.

Lamp Hours Report Page

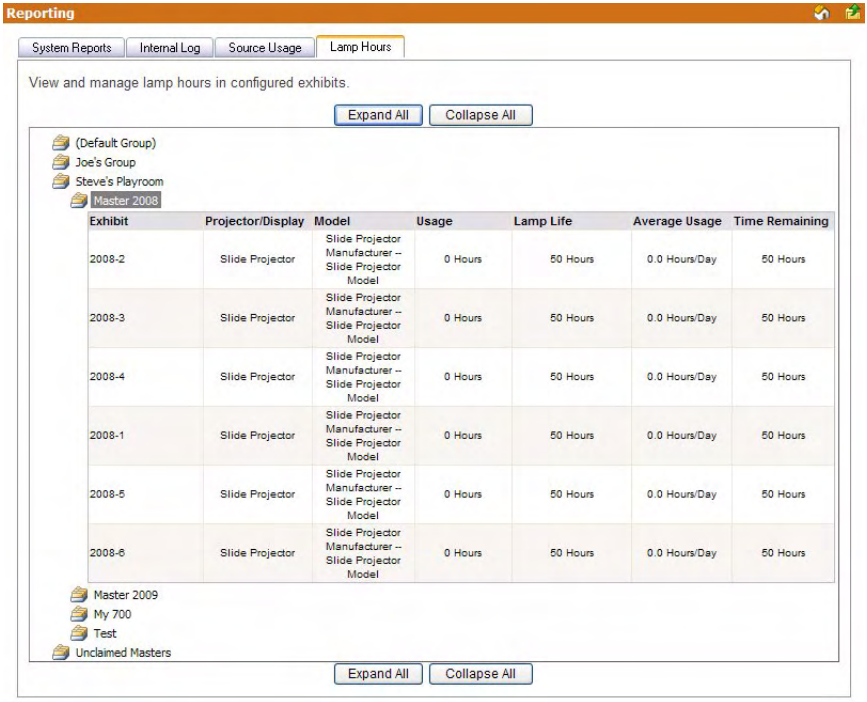


FIG. 73 Lamp Hours Report Page

Display current lamp hours for all rooms. Rooms are displayed in a tree view based on groups. Expand all to see all rooms, or collapse all to collapse all groups. Show triggered, displays lamps that should be replaced within the next two weeks.

Lamp Hours Report	
Room	The friendly name for the room to which the monitored device is associated.
Projector/Display	Name of the projector.
Model	Manufacturer and Model of projector.
Usage	Number of hours on the lamp.
Lamp Life	Expected lamp life set in the RMS application. This is the threshold of the Lamp Hours parameter.
Average Use	Average use in Hours/Day based on historical data in the RMS application.
Time Remaining	Estimated time remaining in days on the lamp based on the expected lamp life and average usage per day. If the lamp is past the established threshold, it displays *Replace Lamp* in red. If there are 14 days or less left on the lamp, it is displayed in orange. If there are 7 or less days left on the lamp, it is displayed in red.

Viewing Lamp Hours reports

1. Select *Reporting* > *Lamp Hours* in the menu on the left side of the RMS application. This launches the *Lamp Hours Report Page* section on page 164.
2. Locate the room for which you want a lamp hour report; double click groups to expand.

Configuration Page

Appointment Settings Page

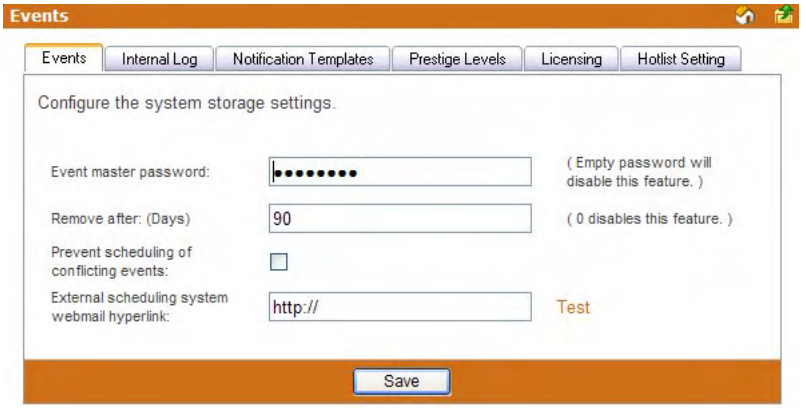


FIG. 74 Appointment Settings Page

These settings allow you to set the master appointment modification password and the number of days to retain appointments.

Appointment Settings	
Appointment Master Password	A password used to help users who forget individual appointment modification passwords. If a user enters a password for an appointment and then forgets it, this password can be entered and used to clear the appointment password. If this password is left blank, there is no master password for modifying appointments. The default password is 1988.
Remove After (Days)	This is the number of days appointments are held in the RMS application system. The default value of 90 days allow users to browse past appointment while minimizing storage requirements. To disable deleting of past appointments, set this value to 0.
Prevent scheduling of conflicting appointments	When checked, the RMS application will not permit the scheduling of more than one appointment at the same time.
External scheduling system webmail hyperlink	If the RMS application is configured using an external scheduling source, selecting *Add Appointment* redirects you to the webmail interface defined in this field.

Configuring the system storage settings

1. Select *Configuration* > *Appointments* in the menu on the left side of the RMS application. This launches the *Appointment Settings Page* section on page 167.
2. Type to set the *Appointment master password*. Leaving this field blank disables this feature.
3. Type the number of days RMS is to retain the appointment in the field *Remove after: (Days)*. The value of 0 disables this feature.
4. Enable *Prevent scheduling of conflicting appointments* by placing a check in the box. If this feature is disabled, it is possible to schedule multiple appointments for the same room at the same time.
5. If the RMS application is configured using an external scheduling source, selecting Add Appointment redirects you to the webmail interface defined in this field. Click *Test* to confirm the URL works.
6. Click **Save** to save.

Setting the Appointment master password

1. Select *Configuration* > *Appointments* in the menu on the left side of the RMS application. This launches the *Appointment Settings Page* section on page 167.
2. Type to set the *Appointment master password*. Leaving this field blank disables this feature.
3. Click **Save** to save.

Configure Internal Log Page

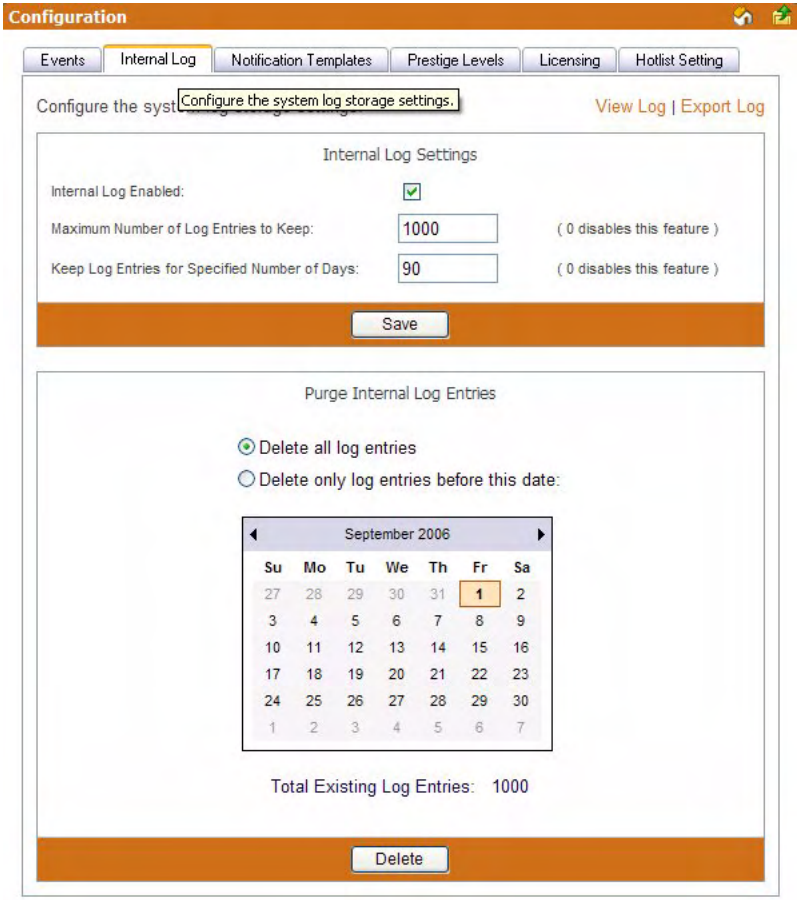


FIG. 75 Internal Log Settings

The size of the Internal Log is automatically managed by the two Internal Log settings, keeping only messages newer than a given date or by fixing the maximum number of log entries. Additionally, the Internal Log Settings screen offers an option to purge the entries.

Internal Log	
Internal Log Enabled:	When checked the RMS server creates and tracks the internal log.
Maximum Number of Log Entries to Keep:	This value sets the maximum number of messages contained in the Internal Log. The default value of 500 allows administrators to browse past log messages and generate historical report while keeping storage requirements low. If you would rather based the Internal Log size on dates of messages, set this value to 0.
Keep Log Entries for Specified Number of Days:	This is the number of days log messages will be held in the RMS application system. The default value of 90 days allows administrators to browse past log messages and generate historical report while keeping storage requirements low. If you would rather based the internal log size on number of messages, set this value to 0.
Purge Internal Log Entries Delete all log entries	This selection deletes all stored internal log entries from the RMS server.
Delete only log entries before this date:	Use the calendar to select the start date of the purge.
Total Existing Log Entries:	The number of internal log entries currently residing on the RMS server.

See Also...

Internal Log Report Page section on page 160

Internal Log Export Page section on page 107

Configuring the Internal Log

1. Select *Configuration* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Configure Internal Log Page* section on page 169.
2. Place a check in the box *Internal Log Enabled* to enable the internal log.
3. Type the maximum number of logs the RMS server is to keep in the field provided (*Maximum Number of Log Entries to Keep*). The value 0 disables this feature.
4. Type the maximum number of days the RMS server is to keep in the field provided (*Keep Log Entries for Specified Number of Days*). The value 0 disables this feature.

5. Click **Save** to save.

Enabling/Disabling Internal Log

1. Select *Configuration* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Configure Internal Log Page* section on page 169.
2. Place a check in the box *Internal Log Enabled* to enable the internal log. Remove the check to disable.
3. Click **Save** to save.

Purging the Internal Log

1. Select *Configuration* > *Internal Log* in the menu on the left side of the RMS application. This launches the *Configure Internal Log Page* section on page 169.
2. If you select *Delete all log entries* no further information is needed and you can click **Delete**.
3. If you select *Delete only log entries before this date:*, select a date from the calendar below.
4. Click **Delete** to delete.

Configure Notification Template Page

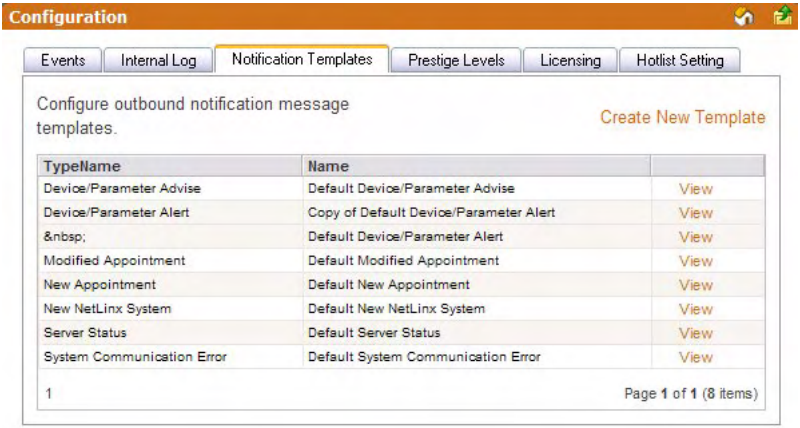


FIG. 76 Configure Notification Template Page

Templates are used by the RMS application to format emails, pager messages and log messages. Each template provides the RMS application with a block of text for use in HTML emails, Plan Text emails, Pager messages and log messages.

Configure Notification Template	
TypeName	There are seven different types of templates: • Device Parameter Advise • Device Parameter Alert • Modified Appointment • New Appointment • New NetLinx Systems • Server Status System Communication Error
Name	A friendly name for the notification.
View	Opens the notification's settings page.

See Also...

Create New Template Page section on page 173

Create New Template Page

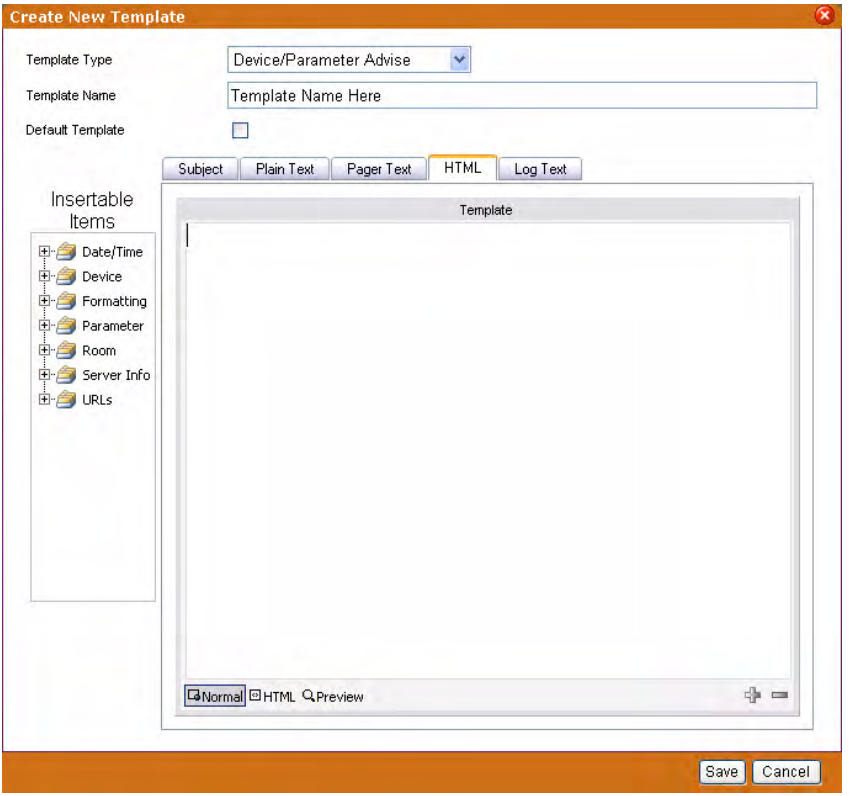


FIG. 77 Create New Template Page

The RMS application comes with a default template for each template type. You can create additional template types to override the text used for notification. For any template type, you can create a custom template and set it as the default to override the default RMS application notification messages.

Device Parameter Advise and Alert templates can be attached to any device parameter allowing you to override the notification text for any parameter.

New and Modified appointment templates can be attached to any room allowing you to override the notification text for any room.

Configure Notification Template	
Template Type Name	There are seven different types of templates: • **Device/Parameter Advise** - These template are used to send notifications when a parameter that was previously outside its normal operating range returned to its normal operation range. • **Device Parameter Alert** - These templates are used to send notifications when a parameter's value is outside it's normal operating range • **Modified Appointment** - These templates are used to send notifications when an existing appointment has been modified. • **New Appointment** - These templates are used to send notifications when a new appointment has been added. • **New NetLinx Systems** - These templates are used to send notifications when a new NetLinx system connects to the RMS application. • **Server Status** - These templates are used to send notifications when the RMS application server is started. • **System Communication Error** - These templates are used to send notifications when a system communication error occurs.
Template Name	The friendly name of the notification template.
Default Template	When enabled, this is the default setting and format for your notifications.
Insertable Items	Each template can contain placeholders that are replaced with data specific to the event when the notification is generated. For instance, if the template contains [Room.Name], this tag is replaced with the name of the room that caused the notification to be sent.
Date/Time	• [DATE] - Short Date in localized format. In US, it would be "mm/d/yy" e.g. "10/3/06" • [LONGDATE] - Long Date in localized format. In US, it would be "month day, yyyy" i.e. "October 3, 2006" • [Room.Time] - Current localized room time. This is calculated based on the timezone the room is configured for. e.g. "12:05 AM" • [Room.TimeZoneName] - The timezone for the room • [Server.Time] - Current localized server time, e.g. "12:05 AM" • [Server.UTC] - Current localized server time in UTC, e.g. "6:05 AM" • [TIME] - Current localized time, e.g. "12:05 AM"

Configure Notification Template (Cont.)	
Device - device that contains the parameter change that invoked the notification	• [Device.Description] - Device textual description • [Device.DPS] - Device:Port:System identifier • [Device.Manufacturer] - Device manufacturer name • [Device.Model] - Device model name/number • [Device.Name] - Device name • [Device.NetLinxDeviceAddress] - NetLinx device address • [Device.NetLinxDeviceAddressType] - NetLinx device address type, e.g. "RS-232" , "TCP/IP" , "AXLINK" or "ICSNET" • [Device.NetLinxDeviceSerialNumber] - The serial number for the NetLinx device • [Device.NetLinxDeviceType] - The NetLinx device type name. e.g. "Volume Control" or "NI Master" • [Device.NetLinxDeviceVersion] - The version of the NetLinx device • [Device.SerialNumber] - Device serial number
Formatting	• [CRLF] - Carriage Return & Line Feed (0x0D, 0x0A) • [TAB] - Tab (0x09)
Parameter - parameter change that invoked the notification	• [Parameter.LastUpdate] - The UTC time the parameter was last updated • [Parameter.Name] - The parameter textual name • [Parameter.OriginalValue] - The original parameter value before the parmaeter change • [Parameter.ParameterType] - The paramter type, e.g. "Numbwe" or "String" • [Parameter.StatusType] - The paramter's status type. e.g. "Help Request" or "Control System Error" • [Parameter.Threshold] - The parameter's threshold value, the value that will be compared against to determine if the parameter change has tripped the parameter • [Parameter.ThresholdCompare] - The parameters threshold comparison expression that is used to determine if the parameter change has tripped the parameter • [Parameter.Units] - The units of measure for the parameter, e.g. "hours", "minutes" etc. • [Parameter.UpdateValue] - The update value of the last parameter change • [Parameter.Value] - The current value of the parameter after the parameter change has been applied

Configure Notification Template (Cont.)	
Room - room that contains the device that contains the parameter change that invoked the notification	• [Room.MapURL] - URL link to the room's map • [Room.Name] - Room Name
Server Info - the RMS Server	• [Program.Name] - This is the name of the RMS vertical market that was selected. e.g. "MeetingManager" or "WorshipManager" • [Server.HostName] - Network hostname of RMS server • [Server.IPAddress] - IP Address of RMS server
URLs	• [Device.ManualURL] - URL link to the device's user manual • [Device.URL] - UTL link to the device page in the RMS web pages • [Parameter.URL] - URL link to the parameter view page in the RMS web pages • [Server.HotListUrl] - URL link to the RMS HotList web page • [Server.InternalLogURL] - URL link to the RMS Internal Log web page • [Server.SystemStatusURL] - URL link to the RMS system status web page • [Server.WebBasePath] - URL link to the RMS web pages
Template Text Area	This is the area where you compose your notification. Use both text and insertable items. Subject - This is a brief description for the subject line of the notification. Plain Text - Plain text with no paragraph formatting. Pager Text - Text that is capable of being sent to pagers. HTML - Formatted text with HTML support including hyperlinks. Log Text - Plain text set for logging.

Viewing a Notification Template

1. Select *Configuration* > *Notification Templates* in the menu on the left side of the RMS application. This launches the *Configure Notification Template Page* section on page 172.
2. Select a template from the table and click *View*.

Creating a new Notification Template

1. Select *Configuration* > *Notification Templates* in the menu on the left side of the RMS application. This launches the *Configure Notification Template Page* section on page 172.
2. Click *Create New Template*.
3. Select a *Template Type*.
4. Type a friendly name for the template.
5. If desired, designate the template as the default notification.
6. Type a *Subject* for the notification.
7. Click the tab of the type of message to use, e.g., *Plain Text, Pager Text, HTML* or *Log Text*.
8. Compose your notification message. When entering template text, you can insert placeholders by selecting an item from *Insertable Items* and double-clicking the item. The item is inserted at the current cursor location. Placeholders are replaced with data specific to the event when the notification is generated.
9. Click **Save** to save, **Cancel** to cancel.

Deleting a Notification Template

1. Select *Configuration* > *Notification Templates* in the menu on the left side of the RMS application. This launches the *Configure Notification Template Page* section on page 172.
2. Select a template from the table right-click and select *Delete*.

Copying a Notification Template

1. Select *Configuration* > *Notification Templates* in the menu on the left side of the RMS application. This launches the *Configure Notification Template Page* section on page 172.
2. Select a template from the table right-click and select *Copy*. This will create a copy of your selected template.

Prestige Levels Page

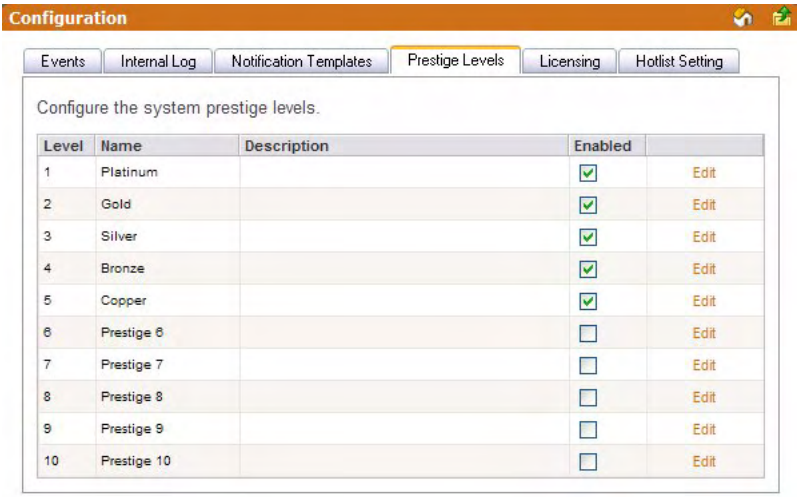


FIG. 78 Prestige Levels Page

Prestige levels are optional but they can help users find a room that meets their needs through the RMS application's room search capabilities. Prestige levels are used to classify rooms based on aesthetics. You can use between one and ten prestige levels based upon the requirements of your facility.

Prestige Levels	
Level	The level of Prestige with Level 1 being the highest.
Name	A friendly name for the Prestige Level.
Description	A brief description of the Prestige Level.
Enabled	When checked, this Prestige Level is available to be assigned to a room.

Editing Prestige Levels

1. Select *Configuration* > *Prestige Levels* in the menu on the left side of the RMS application. This launches the *Prestige Levels Page* section on page 178.
2. Select the prestige level by clicking *Edit*. The *Name* and *Description* fields are now active.
3. Type a new *Name* and/or *Description* for the prestige level.
4. Click *Save* to save, *Cancel* to cancel.

Enabling/Disabling Prestige Levels

1. Select *Configuration* > *Prestige Levels* in the menu on the left side of the RMS application. This launches the *Prestige Levels Page* section on page 178.
2. To enable a selected level, place a check in the box under the column *Enabled.* Remove the check to disable that prestige level.

System Licensing Page

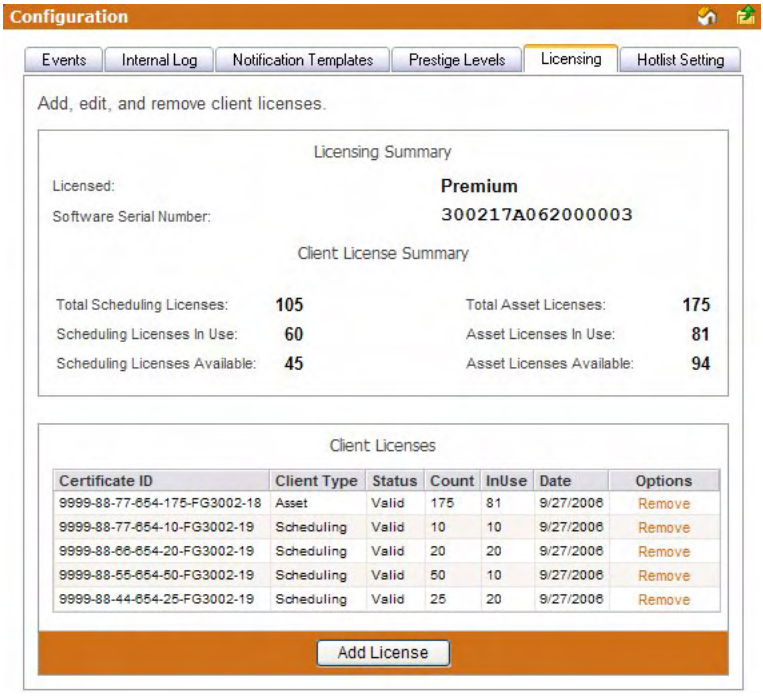

Configuration
Events
Internal Log
Notification Templates
Prestige Levels
Licensing
Hotlist Setting
Add, edit, and remove client licenses.
Licensing Summary
Licensed:
Premium
Software Serial Number:
300217A062000003
Client License Summary
Total Scheduling Licenses: 105
Scheduling Licenses In Use: 60
Scheduling Licenses Available: 45
Total Asset Licenses: 175
Asset Licenses In Use: 81
Asset Licenses Available: 94
Client Licenses
Certificate ID | Client Type | Status | Count | InUse | Date | Options
9999-88-77-654-175-FG3002-18 | Asset | Valid | 175 | 81 | 9/27/2006 | Remove
9999-88-77-654-10-FG3002-19 | Scheduling | Valid | 10 | 10 | 9/27/2006 | Remove
9999-88-66-654-20-FG3002-19 | Scheduling | Valid | 20 | 20 | 9/27/2006 | Remove
9999-88-55-654-50-FG3002-19 | Scheduling | Valid | 50 | 10 | 9/27/2006 | Remove
9999-88-44-654-25-FG3002-19 | Scheduling | Valid | 25 | 20 | 9/27/2006 | Remove
Add License

FIG. 79 System Licensing Page

The RMS application is licensed by the total number of rooms that can be configured within the system. For each room required, you need either one Scheduling license, one Asset license, or both. To obtain an RMS License, please contact AMX at **800-222-0193**, by email at **service@amx.com** or contact your AMX dealer.

When adding a room, the licensing information is displayed to let you know how many licenses you have remaining.

System Licensing	
Licensed	The type of RMS server license. Standard indicates a constrained license while Premium is a fully functioning version of RMS.
Software Serial Number	The Serial number of the server software and the license key.
Total Scheduling Licenses	The total number of scheduling licenses installed.
Scheduling Licenses In Use	The number of scheduling licenses in use.
Scheduling Licenses Available	The number of scheduling licenses available for use.
Total Asset Licenses	The total number of asset licenses installed.
Asset Licenses In Use	The number of asset licenses in use.
Asset Licenses Available	The number of asset licenses available for use.
Certificate ID	This table lists the client certificates installed on the license key. Each client certificate has a certificate ID.
Client Type	The client type of the license, either *Asset* or *Scheduling*.
Status	The current status of the license Certificate ID. Invalid licenses do not function.
Count	Each client certificate has a quantity of client licenses.
InUse	The number of licenses in use on the selected Certificate ID.
Date	The date the Certificate ID was registered with the RMS server.
Options	Remove - Removes the Certificate ID and all of its licenses from the RMS server.

If the number of NetLinx connected systems is greater than the number of licenses available you can still track them in the *Unassigned NetLinx Systems* section of the *HotList*. You will need more Client Licenses before you can create rooms for these systems.

The RMS application can run without a license key. In Standard mode, you can run the RMS application with limited capabilities for previewing the functionality of the software:

- No rooms without masters
- No control function macro creation, scheduling, or execution
- No external scheduling
- Only 1 user other than admin

Checking client licensing information

1. Select *Configuration* > *Licensing* in the menu on the left side of the RMS application. This launches the *System Licensing Page* section on page 180.
2. All available license information is listed in this table.

Adding a Client License

1. Select *Configuration* > *Licensing* in the menu on the left side of the RMS application. This launches the *System Licensing Page* section on page 180.
2. Click **Add License** to enable the *Add Client License* section.
3. Type the AMX provided *License Certificate* and *License Key* in the available fields.
4. Click **Save** to save, **Cancel** to cancel.

Removing a Client License

1. Select *Configuration* > *Licensing* in the menu on the left side of the RMS application. This launches the *System Licensing Page* section on page 180.
2. Click *Remove* for the selected license.
3. Confirm the removal of the license.

Hotlist Settings Page

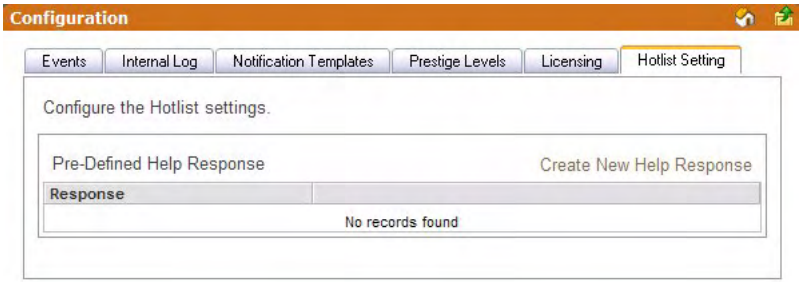


FIG. 80 Hotlist Settings Page

The Hotlist Settings page allows you to create custom system responses to Help and Maintenance requests.

Hotlist Settings Page	
Response	A text field for input of custom response.
Insert	Adds new Help response.
Cancel	Exits the text *Create New Help Response* page without creating response.

Creating a new Help Response

1. Select *Configuration* > *Hot List Setting* in the menu on the left side of the RMS application. This launches the *Hotlist Settings Page* section on page 183.
2. Click *Create New Help Response* to enable the new help response defining area.
3. Type your help response in the text field.
4. Click *Insert* to save, *Cancel* to cancel.

Editing a Help Response

1. Select *Configuration* > *Hot List Setting* in the menu on the left side of the RMS application. This launches the *Hotlist Settings Page* section on page 183.
2. Select your help response and click *Edit* to enable the edit help response defining area.

3. Edit the help response in the text field.
4. Click *Update* to save, *Cancel* to cancel.

Deleting a Help Response

1. Select *Configuration* > *Hot List Setting* in the menu on the left side of the RMS application. This launches the *Hotlist Settings Page* section on page 183.
2. Select your help response and click *Delete*.

Help Page

The Help page is a list of links that can aid you in getting the best uses out of the RMS application.

Help Page	
About RMS application	Opens the *About RMS Application Page* section on page 185, this page contains copyright information about the application.
Administrator's Guide	Launches the PDF version of the Administrator's Guide.
User's Guide	Launches the PDF version of the User's Guide.
Version Information	Launches the *Version Information Page*, this page lists the build version number for the RMS application.
View Readme	Launches the *View Readme Page*, this page lists any feature changes to the RMS application since last release.
System Diagnostics	System Diagnostics provides you with status information for the overall RMS server as well as the status for connected devices.

About RMS Application Page

This page contains copyright information and version for the application.

Administrator's Guide

In addition to the features covered in the User's Guide, the Administrator's Guide covers room and user management, system status, and other system upkeep information.

User's Guide

The User's Guide provide information for scheduling rooms and creating notifications for yourself.

Version Information Page

The Version Information page provide the name of the application, build version and date and the name, version and date for all associated RMS components loaded on the server.

View Readme

The Readme lists any known issues associated with the RMS application build and chronicles any changes that have occurred since the last build of the application.

System Diagnostics

Status Page

The Status page lists all components parts of the RMS server application, this page is a pass-fail diagnostics tool. Any error encountered is indicated with a red X; otherwise, all passing systems are shown with a green check.

Checking System Status

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Status* tab at the top of the page. This launches the *Status Page* section on page 186.
2. Click either *Services, Licensing, Product, Reporting, Server, Logging, Database, SMTP, Dependencies, SNPP, Permissions,* or *ASP* to jump to that section on the page.
3. Click **Refresh** at any time to refresh the page for server status.

Connections Page

The Connections page is used to display the RMS server connection settings and all current TCP/IP connections to the RMS Server from NetLinx masters. The connection listing includes an internal connection identifier, the system identifier and the remote IP address and port of the NetLinx connection. In addition to listing the connections, you can click the red "X" to disconnect any single connection.

- **Refresh Connection List** - Repolls the connections.
- **Restart Connection Server** - Restarts the RMS connection server.

Checking RMS connections

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Connections* tab at the top of the page. This launches the *Connections Page* section on page 187.
2. Click **Refresh** at any time to refresh the page.

Restarting Connection Server

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Connections* tab at the top of the page. This launches the *Connections Page* section on page 187.
2. Click **Restart Connection Server** at any time to restart the connection server for RMS.

Resources Page

When checked, displays all the localization resource key names for each text string that has been localized.

The text displayed gets localized to the foreign language of choice and each string in the system must have a resource key by which to look up the display string in the language resource files.

This tool allows you to verify that the strings are localized and get the resource key name in the event that any changes are made to any specific string, label, text field, or button.

Resources	
Display Resource Keys	Replaces every resource string with the key name that is used to lookup the string value in the resource file. This option is useful to understand exactly what key a particular field is using. This is also a good way to ensure a field is properly defined.
Append Culture Code to Strings	When enabled, this option appends to each resource string the current culture code in parentheses. If the string is coming from the "invariant" culture, no code is appended. This option will help to understand if a particular string is pulled from a culture specific resource file (e.g. "es-MX"), a culture neutral resource file (e.g. "es"), a product specific resource file (e.g. "ClassroomManager.es") or from the invariant resource files. The "invariant" resources are the default resource files used when no resource key can be found in a culture localized resource file. For RMS this is US English.
Display Resource Lookup Table	When enabled, this option displays a table of resource information used for the current page. This table always appears at the bottom of the rendered page.

Displaying/Hiding Resource Keys

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Resources* tab at the top of the page. This launches the *Resources Page* section on page 188.
2. Place a check in the box *Display Resource Keys* to enable. Removing the check disables this feature.

Appending Culture Codes to Strings

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Resources* tab at the top of the page. This launches the *Resources Page* section on page 188.
2. Place a check in the box *Append Culture Code to Strings* to enable. Removing the check disables this feature.

Displaying the Resource Lookup Table

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Resources* tab at the top of the page. This launches the *Resources Page* section on page 188.
2. Place a check in the box *Display Resource Lookup Table* to enable. Removing the check disables this feature.

Debugging Page

The Debugging page allows you to enable detailed diagnostics information on the RMS server for tracking and identifying errors as they occur at the server level. The debug server provides a console view for diagnostics and debug messages. To connect to the debug console, use a TELNET client and connect to the RMS server on the specified port.

If configured to use port number 24, please note that this is not the default TELNET port and you will have to specify the port number when establishing a TELNET based connection.
If a firewall or router is blocking this port you will not be able to remotely access the RMS debug console.

Debugging	
Debug Server Enabled	When checked, RMS creates a debug server. **Note:** The *Debug Server Enabled* option should not be left on in a production running environment. This option is used for support and in-depth diagnostics of the RMS system. While enabled, the system will generate a high volume of internal diagnostics messages and could significantly impact the overall performance of the RMS application.
Debug Server Port	The port number for the Debug server. The default value is port 24.
Open Debug Session	Launches a telnet session to the Debug server.
Save	Enacts changes to the Debugging server.

Setting Debug options and debugging the RMS server

1. Select *Help* > *System Diagnostics* in the menu on the left side of the RMS application. Click the *Debugging* tab at the top of the page. This launches the *Debugging Page* section on page 190.
2. Place a check in the box *Debug Server Enabled* to activate the debugging tool.
3. Set the *Debug Server Port* number in the field provided. The default port is 24.
4. Click the link next to *Open Debug Session* to open a telnet session to the RMS server.
5. Click **Save** when you are finished.

Sitemap Page

The Sitemap is a hierarchal list of links to every page available within the RMS application; this page is restricted and populated according to the role of the user currently logged in to the RMS application.

FIG. 81 Sitemap Page

Click on any link to go directly to the desired application feature.

RMS Scheduling Page

The RMS Scheduling page provides links to viewing the application schedule, creating an entry to the schedule, and access to the PDF version of the User's Guide.

RMS is capable of supporting multiple (up to 12) instances of Scheduling on a single NetLinx Master. If you intend to run multiple instances of Scheduling on a Master, then that Master should be dedicated solely to RMS Scheduling only.

View Schedule Page

The MeetingManager Scheduling page provides links to viewing the schedule in either Day, Week or Month view.

Day View Page

The Day view lists all appointments for the selected room on a particular date. Double-clicking within the hour launches the *Add Appointment Page* section on page 197.

Day View	
Select a room	A drop down list for all rooms available for schedule.
Select Date	A navigation calendar that indicates the current date and allows you to select other dates by clicking. Appointments with a "lock" icon indicate that you do not have the proper permissions to access that appointment. Appointments with a "key" icon indicate password protection, and you must provide the correct password to access the appointment. *Today* brings you back to the current date.
Room Information:	
Name	The name of the room.
Location	The location of the room.
Occupancy	The maximum number of individuals held in this room.
Timezone	This is the time zone setting for the room.
Equipment	This is the equipment list for the room.

Opening Day view

1. Select *View Schedule* > *Day View* in the menu on the left side of the RMS application. This launches the *Day View Page* section on page 193.
2. You can change rooms by selecting them from the drop down menu, *Select a room*.
3. You can change the day in view by clicking on another day in the calendar under *Select Date*. Navigate back to the current day by clicking *Today.*
4. In the event there is an appointment for that room you will see the *Room Details.*
5. Mouse over the appointment to display *Duration, End Time, Start Time, Recurring, Scheduled By, Room Details, Location* and Appointment *Details*. Appointments with a lock indicate you do not have proper permissions to view; appointments with a key require a password.
6. Double click the appointment to edit.

Week View Page

The Week view lists all appointments for the selected room for a particular 7 day period. Double-clicking on any day in the week will open the *Day View Page* section on page 193.

Week View	
Select a room	A drop down list for all rooms available for schedule.
Select Date	A navigation calendar that indicates the current date and allows you to select other dates by clicking. Appointments with a "lock" icon indicate that you do not have the proper permissions to access that appointment. Appointments with a "key" icon indicate password protection, and you must provide the correct password to access the appointment. *This Week* brings you back to the current week.
Room Information:	
Name	The name of the room.
Location	The location of the room.
Occupancy	The maximum number of individuals held in this room.
Timezone	This is the time zone setting for the room.
Equipment	This is the equipment list for the room.

Opening Week view

1. Select *View Schedule* > *Week View* in the menu on the left side of the RMS application. This launches the *Week View Page* section on page 195.
2. You can change rooms by selecting them from the drop down menu, *Select a room*.
3. You can change the week in view by clicking on another day in the calendar under *Select Date*. Navigate back to the current day by clicking *This Week*.
4. In the event there is an appointment for that room you will see the *Room Details.*
5. Mouse over the appointment to display *Duration, End Time, Start Time, Recurring, Scheduled By, Room Details, Location* and Appointment *Details*. Appointments with a lock indicate you do not have proper permissions to view; appointments with a key require a password.

6. Double click the appointment to edit.

Month View Page

The Month view lists all appointments for the selected room for a particular 6 week period. Double-clicking on any day in the month will open the *Day View Page* section on page 193.

Month View	
Select a room	A drop down list for all rooms available for schedule.
Select Date	A navigation calendar that indicates the current date and allows you to select other dates by clicking. Appointments with a "lock" icon indicate that you do not have the proper permissions to access that appointment. Appointments with a "key" icon indicate password protection, and you must provide the correct password to access the appointment. *This Month* brings you back to the current month.
Room Information:	
Name	The name of the room.
Location	The location of the room.
Occupancy	The maximum number of individuals held in this room.
Timezone	This is the time zone setting for the room.
Equipment	This is the equipment list for the room.

Opening Month view

1. Select *View Schedule* > *Month View* in the menu on the left side of the RMS application. This launches the *Month View Page* section on page 196.
2. You can change rooms by selecting them from the drop down menu, *Select a room*.
3. You can change the month in view by clicking on another day in the calendar under *Select Date*. Navigate back to the current day by clicking *This Month*.
4. Double click any day to change to *Day View Page* section on page 193.

Add Appointment Page

The Add Appointment page allows you to create and schedule your own event. MeetingManager will allocate the room for the designated time, execute any predefined Control Functions if available, and provide welcome text to your attendees.

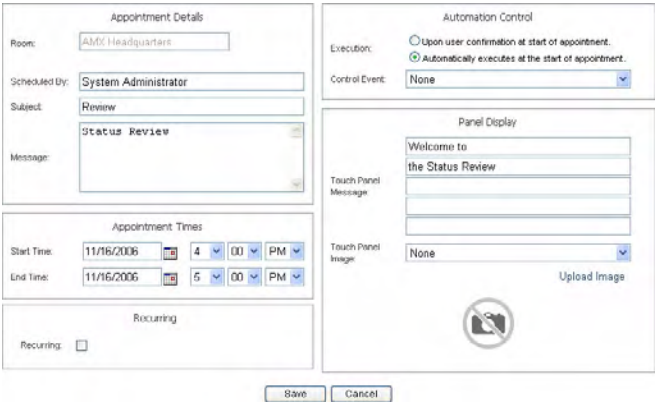


FIG. 82 Add Appointment Page

Add Appointment	
Room	A drop down list of rooms available for scheduling within the RMS application. *Search* allows you to find a room base on your needs. See the *Room Search Page* section on page 203.
Scheduled By:	A text field to provide the name of the meeting scheduler; this field is populated by the RMS application.
Subject	The subject line for the meeting purpose.
Message	A larger text field for any additional information pertaining to the meeting.
Start Time:	A text field for the date (mm/dd/yyyy) the meeting has been scheduled to start. You can click on the calendar icon to select the date. The three following drop down menus represent hour, minute, and designation for ante-meridiem vs. post-meridiem (AM/PM), in that order.
End Time:	A text field for the date (mm/dd/yyyy) the meeting has been scheduled to end. You can click on the calendar icon to select the date. The three following drop down menus represent hour, minute, and designation for ante-meridiem vs. post-meridiem (AM/PM), in that order.

Add Appointment (Cont.)	
Recurring:	When checked, this option makes the meeting a recurring event.
Pattern:	
Daily	Makes the recurring scheduled meeting a daily pattern. • **Every __ days(s)** - text field for number of days between daily recurring meeting • **Every weekday** - executes the daily meeting only Monday - Friday
Weekly	Makes the recurring scheduled meeting a weekly pattern. • **Every __ week(s) on** - text field for number of weeks between weekly recurring meeting Select the day the weekly scheduled meeting is to occur; more than one day can be selected.
Monthly	Makes the recurring scheduled meeting a monthly pattern. • **Day __ of every __ month(s)** - the drop down menus allow you to set what day of the month the recurring meeting executes and how many months between each occurrence. • **The __ __ of every __ month(s)** - this setting allows you to pick either the first, second, third, fourth, or last day of each week, and the number of months between each occurrence.
Yearly	Makes the recurring scheduled meeting a yearly pattern. • **Every __ __** - the drop down menus allow you to set the month and day the recurring meeting occurs. • **The __ __ of __** - this setting allows you to pick either the first, second, third, fourth, or last of each week of a specified month.
Lifetime:	
No end date	The scheduled recurring meeting does not end.
End after __ occurrences	The scheduled recurring meeting ceases to run upon reaching the user defined parameter.
End by:	Either type the date the scheduled recurring meeting is to end or select the date from the calendar icon.
Automation Control	
Execution	• **Upon user confirmation at start of appointment** - The meeting coordinator must select to run preset at the time of the meeting from within the room. • **Automatically executes at the start of the appointment** - The preset runs at the Start Time of the meeting.

Add Appointment (Cont.)	
Control Event	Drop down menu list of available control function macros in your selected room. This event executes based on the *Execution* designation.
Panel Display Touch Panel Message:	Up to 5 lines of text. Type a welcome message as it is to be displayed on the pane in the room. The welcome message can provide your attendees with a warm greeting. This feature is only available if a panel is available for display.
Panel Display (Cont.) Touch Panel Image	RMS supports custom image display for assisting in informing your attendees. The following formats are supported: • BMP (Microsoft Windows Bitmap) • JPG (Joint Photographics Experts Group) • PNG (Portable Network Format) • ICO (Microsoft Windows Icon) • TIF (Tagged Image File Format) • TGA • PCX • WBMP • WMF (Microsoft Windows Metafile) This feature is only available if a G4 panel is available for display.
Upload Image	Clicking this link enables the file upload area of the page. • **Browse...** - Opens the file browse window. • **Upload** - Loads the image file to the appointment. • **Cancel** - Exits the Image Upload without loading an image. This feature is only available if a G4 panel is available for display.

Creating an Appointment

1. Select *Add Appointment* in the menu on the left side of the RMS application. This launches the *Add Appointment Page* section on page 197.
2. In the drop down menu, *Room*, select the room that will host the appointment or search for a room by clicking *Search* (See *Conducting a room search* section on page 204).
3. Type a *Subject* for the appointment in the space provided.
4. Type a *Message* providing more information about the appointment in the larger text field.
5. Set the *Appointment Times*, start, end and if it is a recurring appointment. If the appointment is recurring, set the *Pattern* and *Lifetime* of the appointment.
6. Set the *Automation Control* if applicable; will the preset execute manually or automatically? Select the *Control Event* from the drop down menu.
7. If available, type *Welcome Text* in the lines provided; these lines are displayed on the panels in the room at the time of the appointment.
8. If available, select a *Touch Panel Image* from the drop down menu or click *Upload Image.* If you selected *Upload Image*, either type the path or browse to the file you wish to use. Click **Upload** to load the file.
9. Click **Save** to save, **Cancel** to cancel.

Creating an Appointment with an External Scheduler

When used in conjunction with an external scheduling system, e.g., Lotus Notes, RMS must check the scheduling system for changes and updates. RMS utilizes a trolling engine to log into the external scheduling system, check for new and updated appointments, and then sync those appointments within the RMS database. All detected changes can then become notifications RMS sends to designated users.

1. Within your external scheduler, e.g., Lotus Notes, GroupWise, and Outlook, create a meeting (appointment). Your room selection is made at this time within the external scheduler.
2. Once RMS has detected the new appointment, an email notification is sent to the appointment scheduler (see FIG. 83). Click on the provided *Appointment URL* to set presets, welcome messages, and welcome images in the *Add*

Appointment page. See the *Add Appointment Page* section on page 197 for more details on the page opened.

NOTE

The Add Appointment Page disables the Appointment Details, Appointment Times, and Recurring features, these parts of the appointment can only be changed in the external scheduler.

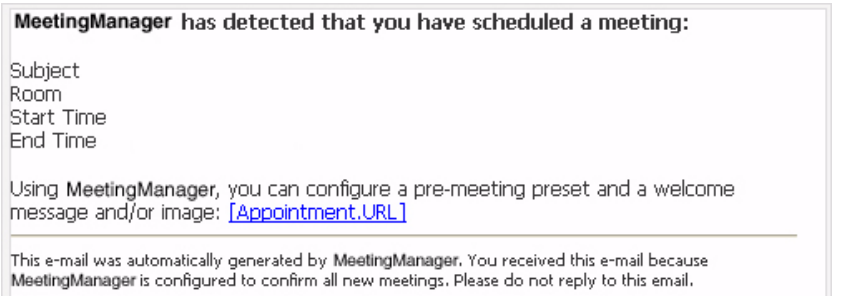

MeetingManager has detected that you have scheduled a meeting:
Subject
Room
Start Time
End Time
Using MeetingManager, you can configure a pre-meeting preset and a welcome message and/or image: [Appointment.URL]
This e-mail was automatically generated by MeetingManager. You received this e-mail because MeetingManager is configured to confirm all new meetings. Please do not reply to this email.

FIG. 83 HTML Notification

3. Set the *Automation Control* if applicable; will the preset execute manually or automatically? Select the *Control Event* from the drop down menu.

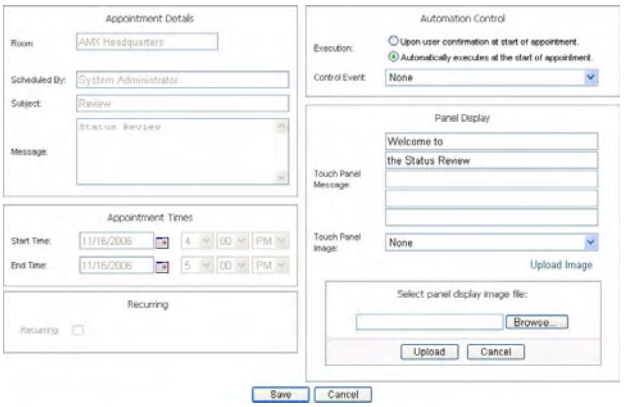


FIG. 84 Configure External Scheduler Appointments Page

4. If available, type *Welcome Text* in the lines provided; these lines are displayed on the panels in the room at the time of the appointment.

5. If available, select a *Touch Panel Image* from the drop down menu or click *Upload Image.* If you selected *Upload Image*, either type the path or browse to the file you wish to use. Click **Upload** to load the file.
6. Click **Save** to save, **Cancel** to cancel.

Included in the RMS SDK are touch panel files that allow the user to execute manual presets, send help and maintenance requests, extend the appointment, and view schedules.

Room Search Page

The Room Search page allows you to search for a specific room or find one based on your appointment needs. Room searching is a feature of internal RMS scheduling.

Room Search	
Room Name	The name of the room.
Location	The location of the room
Number of Seats Needed	This is the number of seats for the room.
Prestige Level	Select the level from the drop down list. This is the prestige level for the room.
Equipment Needed	This is the equipment listed for any room. All equipment items should be separated by a comma.
Search for specific Date/Time	When checked, RMS will search for a room that meets your parameters within a window of time.
Date Needed	Type the date the room is needed or click the calendar icon to select a date.
Duration	The time in hours and minutes the room is needed.
Search for specific time or search in a range of times Start Time	The desired start time for the appointment.The three following drop down menus represent hour, minute and designation for ante-meridiem vs. post-meridiem, in that order.
Search By Range	RMS searches the availability of a room based between the *Start* and *End* time range. The three following drop down menus represent hour, minute and designation for ante-meridiem vs. post-meridiem, in that order.

Room Search Results Page

Based on the criteria used in the *Room Search Page* section on page 203, choose the room to use from the list displayed on this page.

Room Search Results	
Room	The name of the room.
Location	The location of the room
Prestige Level	Select the level from the drop down list. This is the prestige level for the room.
Num of Seats Needed	This is the number of seats for the room.
Option	**Select** - Selects the room for use within the appointment.

Conducting a room search

1. Select *Add Appointment* in the menu on the left side of the RMS application. This launches the *Add Appointment Page* section on page 197.
2. Click the link *Search* to launch the *Room Search Page* section on page 203.
3. Enter the room criteria in the spaces provided.
4. Click **Search**.
5. Find a room that fits your needs and allocate it to your appointment by clicking *Select*.

Help

This link launches the User's Guide.

MeetingManager User Page

Sign in Page

The Sign in page is the access page for MeetingManager. *Username* and *Password* are unique to each user.

How do you sign in to RMS?

1. Type the URL of your RMS server into your web browser.
2. Type your *username* in the field provided.
3. Type your *password* in the field provided.
4. Click **Sign In**.

Preferences Page

The Preferences page allows each user to customize aspects of their MeetingManager experience.

Preferences	
Language	A drop down list of available translations for the MeetingManager application. MeetingManager detects the language of your browser and uses that unless otherwise specified. Your language preference is stored at the RMS server level and it is no longer necessary to enable cookies on your browser.
Home Page:	A drop down list of available MeetingManager application web pages that can be designated as the home page; this will be the first page loaded upon a successful login.
Column Sorting:	Clicking **Reset All Data Grids** returns each table within MeetingManager to the default sort method.
Scheduling View Hours:	A drop down list for the number of hours displayed in the scheduling view of MeetingManager.

Setting the default language

1. Select *Settings* > *Preferences* in the menu on the left side of the RMS application. This launches the *Preferences Page* section on page 205.
2. Select your language from the drop down menu, *Language*. *Auto Detect* will use the language settings of your web browser.
3. Click **Save** to save the setting.

Setting the home page

1. Select *Settings* > *Preferences* in the menu on the left side of the RMS application. This launches the *Preferences Page* section on page 205.
2. Select your home page from the drop down menu, *Language*. The home page is your default page upon sign in and any time you select *Home* on any RMS page.
3. Click **Save** to save the setting.

Resetting column sorting

1. Select *Settings* > *Preferences* in the menu on the left side of the RMS application. This launches the *Preferences Page* section on page 205.
2. Click **Reset All Data Grids**.
3. Click **Save** to save the setting.

Setting scheduling view hours

1. Select *Settings* > *Preferences* in the menu on the left side of the RMS application. This launches the *Preferences Page* section on page 205.
2. Select the block of hours from the drop down menu,
3. Click **Save** to save the setting.

User Profile Page

The User Profile page allows the user to change personal information and designate how the RMS application interacts with them.

User Profile	
Username:	This is your username in relation to logging into MeetingManager. This value is required.
Account Enabled:	When this box is checked, a user is valid and can log into MeetingManager.
Password:	This is the password associated with your user account, used at the time of login. This value is required.
Confirm Password:	Retype password for confirmation. This value is required.
First Name:	The first name of the user assigned to this account. This value is required.
Last Name:	The last name of the user assigned to this account. This value is required.
Phone	User's phone number.
Mobile Phone:	User's mobile phone number.
Fax:	User's fax number.
Email 1,Email 2, Email 3, Email 4:	User's email address. The following drop down menu allows you designate the email address as the default account, send a plain text message, HTML message, or Pager Message. **Test** sends a message to the email address. When established, RMS will use the account to send notifications. You can enter up to 100 characters for an email address.
Pager Provider:	A drop down list of pager providers. This option is only available if the RMS server has been configured to use Simple Network Paging Protocol (SNPP).
Pager Number:	The number for contacting the pager with notifications.
Notification Time Span:	
Disable Notifications	When selected, notifications are not sent to this user.
Always Send Notifications	When selected, all notifications are sent to this user.
Only Send Notifications On:	The RMS server will send notification only within the designated parameters. Place a check in the box next to the days of the week you would like to receive notifications. **Start Time/End Time** - The three drop down menus represent hour, minute and designation for ante-meridiem vs. post-meridiem (AM/PM), in that order. Notifications are only sent between the start and end times.

Editing your User Profile

1. Select *Settings* > *Profile* in the menu on the left side of the RMS application. This launches the *User Profile Page* section on page 207.
2. Change any of the fields but be sure to include all of the required information.
3. Click **Save** to save the setting.

Changing your User Password

1. Select *Settings* > *Profile* in the menu on the left side of the RMS application. This launches the *User Profile Page* section on page 207.
2. Click the *Profile* tab at the top of the page.
3. Enter your new *Password* in the provided field.
4. *Confirm Password* in the provided field.
5. Click **Save** to save the setting.

Setting User Notification Time Span

1. Select *Settings* > *Profile* in the menu on the left side of the RMS application. This launches the *User Profile Page* section on page 207.
2. Click the *Profile* tab at the top of the page.
3. In the section, *Notification Time Span*, select either *Disable Notifications, Always Send Notifications,* or *Only Send Notification On*. If you selected *Disable Notifications* or *Always Send Notifications*, no more information is needed and you can click **Save**.
4. If you selected *Only Send Notifications On*, set the sending parameters of the notification.
5. Click **Save** to save the setting.

User Notifications Page

The User Notifications page is a listing of all notifications you are designated to receive. Additionally, you can create new notifications for yourself.

If the user is receiving notifications because they are a member of a user role that has been assigned a notification, they will see this in the notifications listing, but will not be able to edit it. This can only be changed by a user administrator via the *Manage Notifications Page* section on page 98.

User Notifications	
Group Name	The name of the group or groups receiving the selected notification.
Room Name	The name of the room being monitored for the notification.
Status Type	The type of status monitored for the notification.
User	The username receiving the notification.
Email	User's email address.
Pager	The pager number for the user.
Options	**Edit** - Launches the *Create New Notification Page*. **Delete** - Deletes the selected notification.

Create New Notification Page

You can assign RMS to track status types for rooms and groups and then provide you with notifications.

Create New Notification	
Enabled	When checked, the notification is active.
Groups/Rooms	A drop down list of groups and rooms in the RMS system. Selecting one tracks it for the purposes of the notification. This field is required.
Users	The username receiving the notification. This field is required.

Create New Notification (Cont.)	
Status Type	The type of status monitored for the notification. • **Control System Error** This status type is triggered when the RMS server detects an error within the NetLinx master control system. • **Equipment Usage** This status type is triggered when any monitored equipment is used. • **Help Request** This status type is triggered when the RMS server reports receiving a help request. • **Maintenance** This status type is triggered when the RMS server reports receiving a request for maintenance. • **Modified Appointment** This status type is triggered when an existing appointment is modified for a room either through the internal scheduler or as detected by the RMS Scheduling manager for an external scheduling system. • **Network** This status type is triggered when the network creates an error. • **New Appointment** This status type is triggered when a new appointment is added for a room either through the internal scheduler or as detected by the RMS Scheduling manager for an external scheduling system. • **New NetLinx System** This status type is triggered when a new NetLinx system connects to the RMS server. • **Not Assigned** This status type is triggered when a detected NetLinx system has not been assigned. • **Room Communication Error** This status type is triggered when the RMS server software encounters a problem communicating with a room within the RMS system.

Create New Notification (Cont.)	
	• **Security** This status type is triggered when the RMS server reports a security parameter has been met. • **Server Status** This status type is trigger when the RMS server software starts up. • **System Communication Error** This status type is triggered when the RMS server software encounters a problem communicating with an external communication system, such as SMTP or SNPP. This field is required.
Emails & Pager	User's email addresses. The pager number for the user. You can enter up to 100 characters for an email address.

Creating new User Notifications

1. Select *Settings* > *Notifications* in the menu on the left side of the RMS application. This launches the *User Notifications Page* section on page 209.
2. Click *Create New Template* to launch the *Create New Notification Page* section on page 209.
3. Place a check in the box, *Enabled*.
4. Select a room or group from the drop down list *Groups/Rooms*.
5. Select a *Status Type* to monitor from the drop down list.
6. Select the email and/or pager accounts the notification will use by placing a check in the box.
7. Click **Save** to save, **Cancel** to cancel.

Sign Out Page

The Sign Out page confirms your selection to exit the MeetingManager application; select **Yes** or **No**.

Signing Out of RMS

1. Select *Sign Out* in the menu on the left side of the RMS application.
2. Click **Yes** to confirm.

RMS Touch Panel Pages

Included within the RMS SDK are G4 touch panel pages for your RMS installation. Based on NetLinx code configuration, the panel boots up as either a Welcome or In-room panel page.

RMS Welcome Page

This page is displayed on the panel outside of the meeting room.

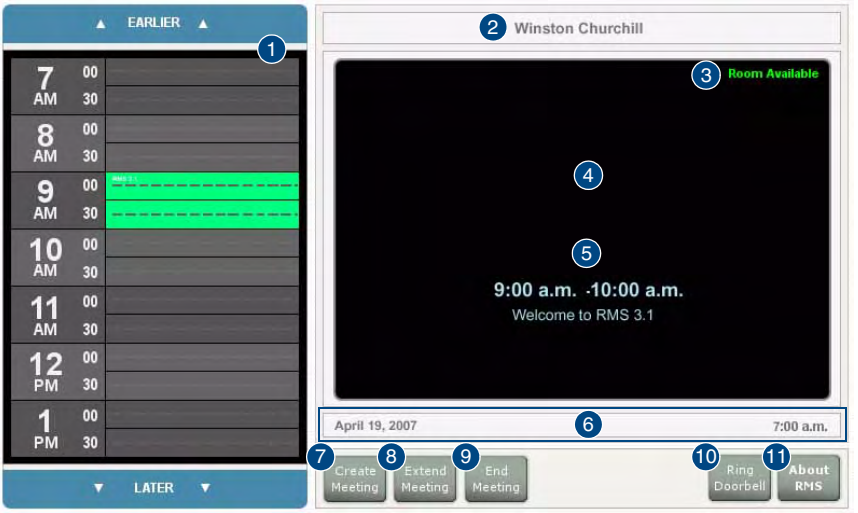


FIG. 85 RMS Welcome Page

RMS Welcome Page		
1	Meeting room schedule	The schedule for the meeting room. Navigate back and forward through the schedule using the **EARLIER** and **LATER** buttons at the top and bottom of the schedule. Select a reserved time to view its information.
2	Meeting room name	The name of the meeting room.
3	Meeting room status	The current status of the meeting room; *Room Available* or *Room In Use*.
4	Welcome image	If configured, a welcome image appears in this space.
5	Meeting information	The time span and welcome text of a meeting selected in the meeting room schedule.

RMS Welcome Page (Cont.)		
6	Date and time	The current date and time.
7	Create Meeting	When available, create a meeting and reserve the room. Selecting this button launches the *RMS Meeting Request Dialog* section on page 214.
8	Extend Meeting	When available, extends the reserve time for the meeting room. RMS extends in increments of 15 minutes. Reoccurring meetings cannot be extended.
9	End Meeting	Ends the meeting early and makes the room available to the schedule. Reoccurring meetings cannot end early.
10	Ring Doorbell	Triggers a sound and/or a popup on the panel inside the room.
1‘	About RMS	Opens the *About RMS* popup.

RMS Meeting Request Dialog

When scheduling a meeting at the Welcome panel, it is necessary to provide the scheduler with information and parameters for the meeting. Meetings scheduled at the panel are non-repeating meetings only. Touch the fields to select them.

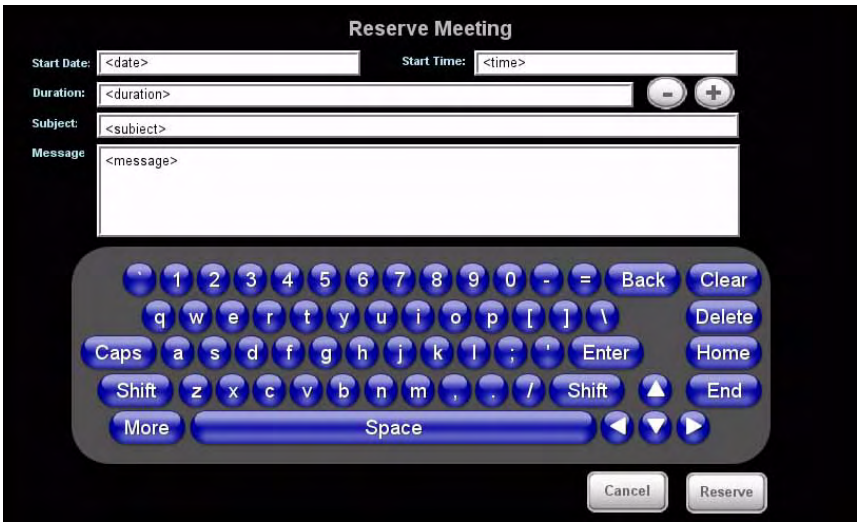


FIG. 86 RMS Meeting Request Dialog

RMS Meeting Request Dialog	
Start Date	The start date for the meeting reservation.
Start Time	The start time for the meeting reservation.
Duration	The length of time the meeting reservation is to run; press the **+** and **-** buttons to add and remove time respectively.
Subject	Subject field for the meeting reservation. The subject is displayed in the scheduling information. Touch the field to select and use the keyboard a the bottom of the screen.
Message	Message field for the meeting reservation. The message is displayed on the panel and part of the scheduling information. Touch the field to select and use the keyboard a the bottom of the screen.
Keyboard	QWERTY keyboard for inputting text in designated fields.
Cancel	Exits the *Reserve Meeting* dialog without creating a meeting.
Reserve	Places the request for meeting reservation with the scheduling troller. In the event of a conflict, the request is denied.

Finding a meeting in a room's schedule

1. Press the **EARLIER** and **LATER** buttons within the *Meeting room schedule* area.
2. Once you have located the meeting, press the meeting to see more information.

Creating a meeting at the Welcome panel

1. Within the *Welcome* page, press **Create Meeting**. This launches the *RMS Meeting Request Dialog* section on page 214.
2. Set the following:
   - *Duration*
   - *Subject*

The *Message* field is not required for the scheduling troller but is a helpful field for users.

3. Press **Reserve**. You will then see one of the following:

- **Confirmed** - the meeting has been created.

FIG. 87 Reservation Confirmed

- **Unsuccessful** - the meeting has not been created.

FIG. 88 Reservation Failed

4. Press **OK**.

Extending a meeting at the Welcome panel

Within the *Welcome* page, press **Extend Meeting**. RMS extends the meeting in 15 minute increments. Both successful and failed extension attempts receive a message.

- **Confirmed** - the meeting has been extended.

FIG. 89 Extension Confirmed

- **Unsuccessful** - the meeting has not been extended.

FIG. 90 Extension Failed

Ending a meeting early at the Welcome panel

1. Within the *Welcome* page, press **End Meeting**. This launches the *Confirm Meeting End* dialog.

FIG. 91 Meeting End

2. press **Yes**. Based upon your scheduling system's support of this feature, you will see either:

- **Confirmed** - the meeting has been ended.

FIG. 92 End Confirmed

- **Unsuccessful** - the meeting has not been ended.

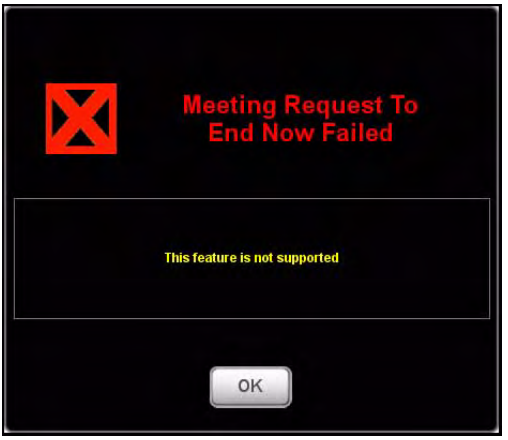


FIG. 93 End Failed

Ringing the doorbell

Within the *Welcome* page, press **Ring Doorbell**. This launches the *Doorbell* dialog on the In-room panel and a doorbell tone.

FIG. 94 Doorbell

The ring doorbell button will be hidden if the meeting room has enabled *Do Not Disturb.*

RMS In-room Page

This page is displayed on the panel inside of the meeting room.

FIG. 95 RMS In-room Page

RMS In-room Page		
1	Meeting room schedule	The schedule for the meeting room. Navigate back and forward through the schedule using the **EARLIER** and **LATER** buttons at the top and bottom of the schedule. Select a reserved time to view its information.
2	Meeting room name	The name of the meeting room.
3	Meeting room status	The current status of the meeting room; *Room Available* or *Room In Use*.
4	Welcome image	If configured, a welcome image appears in this space.
5	Meeting information	The time span and welcome text of a meeting selected in the meeting room schedule.
6	Create Meeting	When available, create a meeting and reserve the room. Selecting this button launches the *RMS Meeting Request Dialog* section on page 214.
7	Extend Meeting	When available, extends the reserve time for the meeting room. RMS extends in increments of 15 minutes. Reoccurring meetings cannot be extended.
8	End Meeting	Ends the meeting early and makes the room available to the schedule. Reoccurring meetings cannot end early.

RMS In-room Page (Cont.)		
9	Run Preset	If the meeting was created on the Scheduling page of RMS, the user had the option of creating a preset. The preset option allows you to execute it automatically or by this button. See *Creating an Appointment* section on page 200 of the *RMS Administrator's* manual.
10	Date and time	The current date and time.
11	Room Calendar	Launches the calendar popup for the room schedule. Reservations for the selected room are displayed here.
12	Do Not Disturb	Selecting this button displays a "Do Not Disturb" dialog on the *RMS Welcome Page* section on page 213, and disables the doorbell feature.
13	Help	Launches the RMS *Help Request* dialog. You must establish who receives the request.
14	Service Request	Launches the RMS *Service Request* dialog. You must establish who receives the request.
15	Exit RMS	Exits the RMS panel pages.

Finding a meeting in a room's schedule

1. Press the **EARLIER** and **LATER** buttons within the *Meeting room schedule* area.
2. Once you have located the meeting, press the meeting to see more information.

Creating a meeting at the In-room panel

1. Within the *In-room* page, press **Create Meeting**. This launches the *RMS Meeting Request Dialog* section on page 214.
2. Set the following:
   - *Start Date*
   - *Subject*

The *Message* field is not required for the scheduling troller but is a helpful field for users.

3. Press **Reserve**. You will then see one of the following:

- **Confirmed** - the meeting has been created.

FIG. 96 Reservation Confirmed

- **Unsuccessful** - the meeting has not been created.

FIG. 97 Reservation Failed

4. Press **OK**.

Extending a meeting at the In-room panel

Within the *In-room* page, press **Extend Meeting**. RMS extends the meeting in 15 minute increments. Both successful and failed extension attempts receive a message.

- **Confirmed** - the meeting has been extended.

FIG. 98 Extension Confirmed

- **Unsuccessful** - the meeting has not been extended.

FIG. 99 Extension Failed

Ending a meeting early at the In-room panel

1. Within the *In-room* page, press **End Meeting**. This launches the *Confirm Meeting End* dialog.

FIG. 100 Meeting End

2. press **Yes**. Based upon your scheduling system's support of this feature, you will see either:

- **Confirmed** - the meeting has been ended.

FIG. 101 End Confirmed

- **Unsuccessful** - the meeting has not been ended.

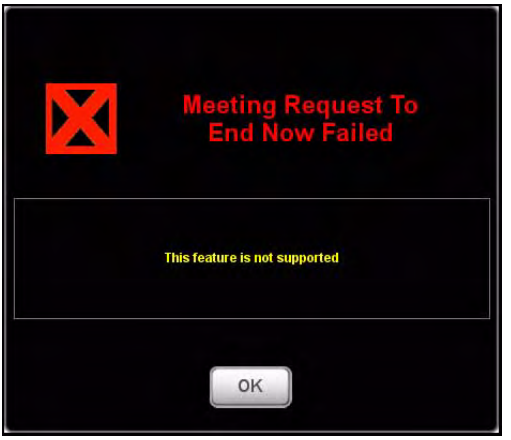


FIG. 102 End Failed

Executing a meeting preset

If a manually executed preset was created when the meeting was set, press **Run Preset**.

See Also...

- *Creating an Appointment* section on page 200 in the *RMS Administrator's* guide.
- *Creating a new macro* section on page 113 in the *RMS Administrator's* guide.

Using the room's calendar

1. Within the *In-room* page, press **Room Calendar**. This launches the *Calendar* dialog.

FIG. 103 Room Calendar

2. The first drop down menu allows you to change months. Press the current month to access other months.
3. The second drop down menu allows you to change years. Press the current year to access other years.
4. Press any day in the calendar to view information for that room on that day.
5. You can return back to your current date at any time by pressing **Today**.

6. Press **OK** when you are finished with the calendar.

Setting the meeting to "Do Not Disturb"

Press the **Do Not Disturb** button to toggle the feature on and off. Enabling this feature places a dialog on the *Welcome* panel outside of the room and disables the doorbell.

FIG. 104 Do Not Disturb

Placing a Help Request

1. Within the *In-room* page, press **Help**. This launches the *Help Request* dialog.

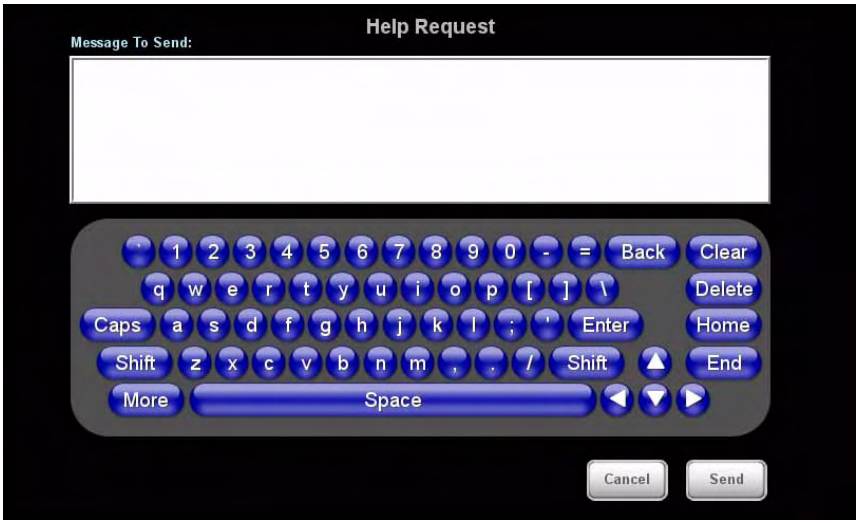


FIG. 105 Help Request

2. Type your message using the provided QWERTY keyboard.
3. Press **Send**. There are 2 responses you can expect from the Help Desk:

- Message from Help Desk

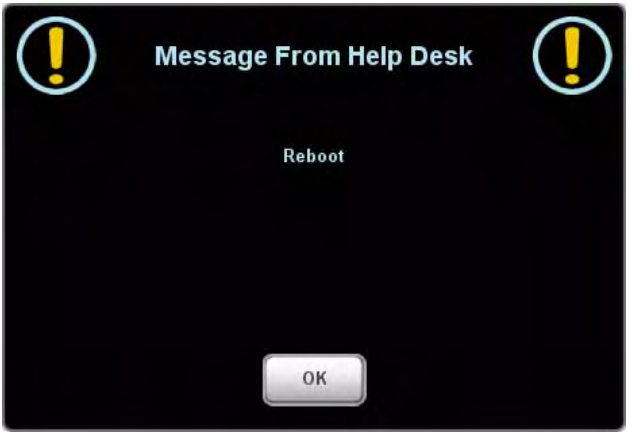


FIG. 106 Message from Help Desk

Press **OK** to confirm.

- Question from Help Desk

FIG. 107 Question from Help Desk

Press your response to select.

Placing a Service Request

1. Within the *In-room* page, press **Service**. This launches the *Service Request* dialog.

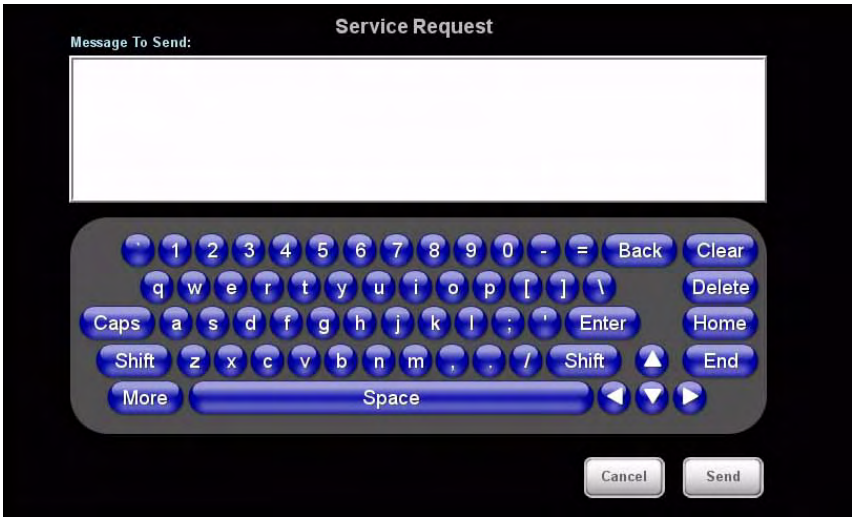


FIG. 108 Service Request

2. Type your message using the provided QWERTY keyboard.
3. Press **Send**; RMS will confirm with you that the request has been sent.

Configuration Wizard

Welcome

The RMS application suite Configuration Wizard is used to guide you through the initial setup and configuration of your RMS application suite server. After installing an RMS application you must complete the Configuration Wizard to register and enable your server. Additionally, you may return to the Configuration Wizard at any time to modify system settings or diagnose system related problems.

FIG. 109 Welcome

Click **Next** to begin the RMS application suite Configuration Wizard.

Appointment Management/Scheduling System

The RMS application suite server software can manage appointments using an Internal or External scheduler such as Microsoft Exchange, Lotus Notes, or Novell GroupWise. Depending on your configuration, additional configuration steps need to be taken. This step helps the configuration wizard guide you through the appropriate options for your configuration.

Appointment Management/Scheduling System	
Internal Appointment Management/Schedule System	Select this option if you want to use the Appointment Management features of the RMS application suite, but do not want to connect to an external scheduling system.
External Appointment Management/Schedule System	Select this option if you want to use the Appointment Management features of the RMS application suite with an external scheduling system.

If you wish to use an existing scheduling system, please choose the *External Appointment Management/Scheduling System* option.

Otherwise, select *Internal Appointment Management/Scheduling System*.

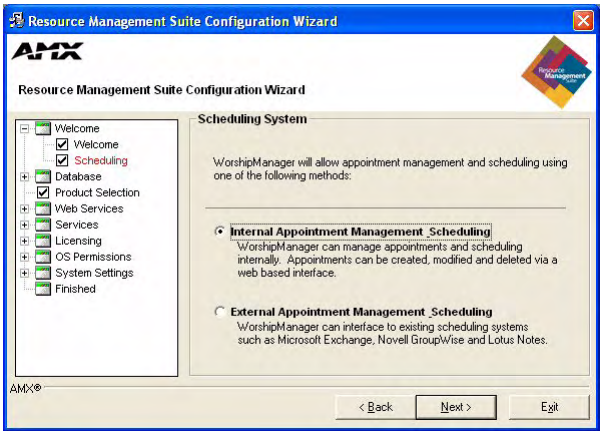


FIG. 110 Scheduling System

Click **Next** to continue.

Database

The AMX RMS application suite uses a single central database for all data storage. This database can be configured in the RMS application suite Configuration Wizard.

Connection

The next step is to verify the RMS application suite database connection.

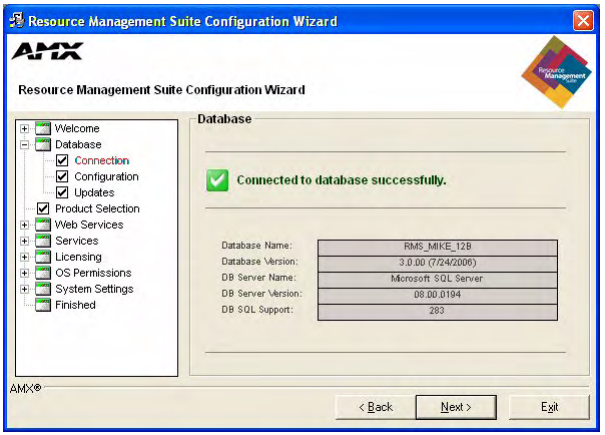


FIG. 111 Connection to Database

Configuration

NOTE

The Configuration screen may be skipped in the Configuration Wizard if a successful database connection is detected. You can navigate to the Configuration screen at any time by double-clicking the "Configuration" item in the navigation tree under the "Database" heading.

The Configuration screen allows you to manually configure the database connection settings. The RMS application suite supports the following database types:

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005 Standard Edition
- Microsoft SQL Server 2005 Enterprise Edition
- Microsoft SQL Server 2005 Express Edition

You need to specify the database server name/address and the database/catalog name.

FIG. 112 Configuration

Upon completion of the database configuration settings, click **Next** to proceed.

Updates

NOTE

The Updates screen may be skipped in the Configuration Wizard if a successful database connection is detected and no updates are required. You can navigate to the Updates screen at any time by double-clicking the "Updates" item in the navigation tree under the "Database" heading.

The database update screen indicates if the existing database needs to be updated. If the database versions are mismatched, the *Update Database* button is available; click the **Update Database** button to start the database update process.

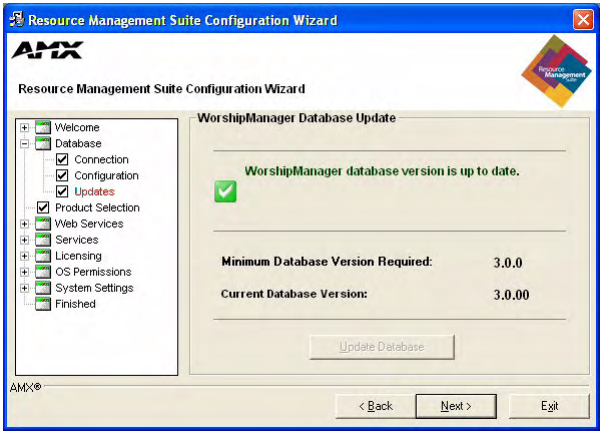


FIG. 113 Updates

After the updates are complete, click **Next** to proceed.

Product Selection

AMX strategically focuses on meeting the needs of high-growth vertical markets. In the commercial space, this includes: Broadcasting, Education, Entertainment, Government, Healthcare, Hotels, Houses of Worship, Network Operations Centers, Presentation Facilities, and Retail. For the residential market, AMX delivers solutions for Whole Homes, Home Theater, Multi-Dwelling Units, and Private Transportation.

The RMS application suite now supports several vertical markets. Selecting one of the following determines what branch of RMS is installed as your server.

- **MeetingManager** - Presentation Facilities
- **ClassroomManager** - Education
- **ExhibitManager** - Retail and Museums
- **VenueManager** - Entertainment, Hotels, Healthcare, and Broadcasting
- **WorshipManager** - Houses of Worship
- **HomeManager** - Whole Homes, Home Theater, Multi-Dwelling Units, and Private Transportation
- **IntelligentManager** - Government

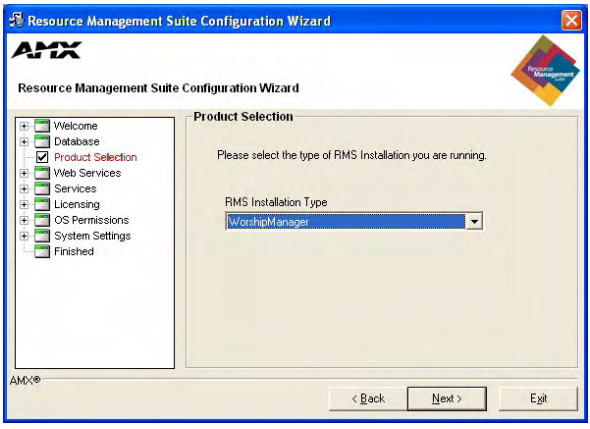


FIG. 114 Product Selection

Web Services

The RMS application suite requires the use of the Microsoft Internet Information Services to host the RMS application suite web pages (ASP).

Microsoft IIS Server

This step in the Configuration Wizard ensures that the IIS web server is running.

If the IIS web server is not running, click **Start IIS Web Server**.

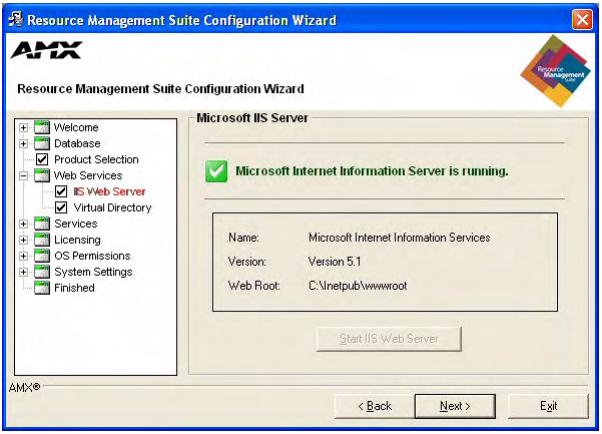


FIG. 115 Start Microsoft IIS Server

Click **Next** to continue.

Virtual Directory

The RMS application suite user interfaces are web pages designed to run in Windows IIS Server. This configuration step guides you through the proper setup of the IIS Virtual Directory.

Web Virtual Directory Configuration (IIS)	
Virtual Directory Alias Name	Enter the name of the virtual directory you would like to use for the RMS application suite web pages. The configuration wizard will make the appropriate changes to your IIS configuration when you click Create Virtual Web Directory. These include creating a virtual directory, creating an ASP application for this directory, and setting the "Enable Parent Paths" option to true.

FIG. 116 Web Virtual Directory Configuration

1. Enter the name of the virtual directory used for the RMS application suite web pages, in the *Virtual Directory Alias Name* field.
2. Click **Create Virtual Web Directory**, the configuration wizard will make the appropriate changes to your IIS configuration.
3. Click **Next** to proceed.

Services

The RMS application suite server software is comprised of a collection of Windows NT Services. NT Services allow the program to load automatically on computer boot up and to run unattended without a user being logged onto the computer. NT Services must be registered with the Windows operating system. The RMS application suite services are compatible with Microsoft Windows 2000 and newer operating systems. You must register all services before proceeding to the next step.

Service Registration	
AMX RMS Server	This service is the primary RMS application suite service. This service loads automatically upon Windows boot up.
AMX RMS Communications Manager	This service handles all outbound communication for the RMS application suite system notifications and the following communication methods: • SMTP Email Messages • SYSLOG Messages • Windows Event Log Messages • SNPP Paging Messages • SNMP Trap Messages This service loads automatically upon Windows boot up.
AMX RMS NetLinx Manager	This service is responsible for hosting, facilitating, and maintaining all connections and communications with the NetLinx systems. This service loads automatically upon Windows boot up.
AMX RMS Scheduling Manager	This service connects to external scheduling systems (Microsoft Exchange, Novell GroupWise, Lotus Notes, etc.) and acquires appointments for a given calendar folder for each room configured in the RMS application suite system. Upon clicking the "Register Services" button, you are prompted to choose between the system account and a local user account if you are connecting to an external scheduling system. If you are planning on integrating the room scheduling and appointment features of the AMX RMS application suite with an external messaging system you must configure this service to log on as a user or resource account that has Domain permissions to the target messaging system mailbox/calendar or local MAPI profile. This service loads automatically upon Windows boot up.

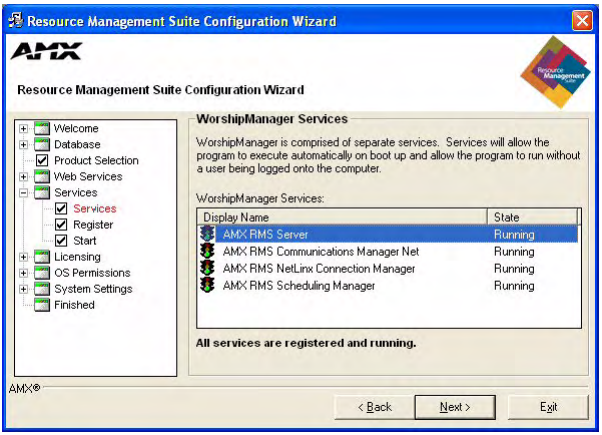


FIG. 117 RMS Application Suite Services

Click **Next** to continue.

Register

Initially, the RMS application suite services are not be registered. Click the **Register Services** button to start the registration process.

FIG. 118 Register RMS Application Suite Services

If the *External Appointment Management/Scheduling System* option was selected in the *Appointment Management/Scheduling System* step, the service registration prompts you to select a user account which the scheduling service will utilize for

appointment access functions. This is important for some scheduling systems where specific user accounts require domain user security privileges. For example, to access a Microsoft Exchange account, the scheduling service must log on with a user account that has access to all of the desired Exchange mailboxes. If your third-party scheduling system does not require domain user permissions, you can use the *Local System account* option. Please review the documentation covering the particular RMS application suite Scheduling Plug-in that you intend to use.

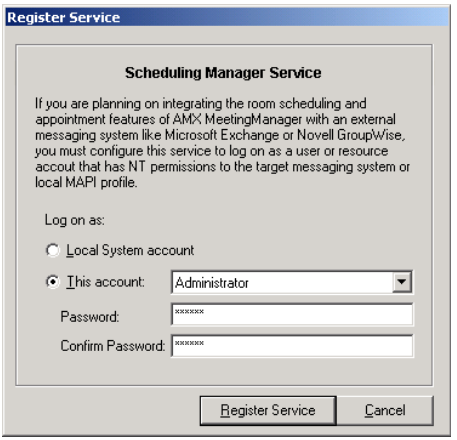

Register Service
Scheduling Manager Service
If you are planning on integrating the room scheduling and appointment features of AMX MeetingManager with an external messaging system like Microsoft Exchange or Novell GroupWise, you must configure this service to log on as a user or resource accout that has NT permissions to the target messaging system or local MAPI profile.
Log on as:
Local System account
This account:
Administrator
Password:
******
Confirm Password:
******
Register Service
Cancel

FIG. 119 Scheduling Manager Service

After making your selection, click **Register Service** to continue.

After completing the registration process, the Configuration Wizard indicates all RMS application suite services were registered successfully.

FIG. 120 RMS Application Suite Services Successfully Registered

Click **Next** to continue.

Start

After the RMS application suite services have been registered, you must start them.

Click the **Start Services** button.

FIG. 121 Start RMS Application Suite Services

As the Configuration Wizard is starting each service, a dialog indicates the startup status. Click **Cancel** to cease starting services and return to the Configuration Wizard.

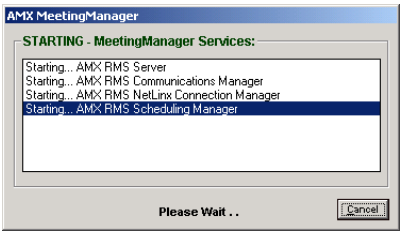


FIG. 122 Starting Services Dialog

Upon the successful start of the RMS application suite services, the Configuration Wizard visually indicates all services as *Running*.

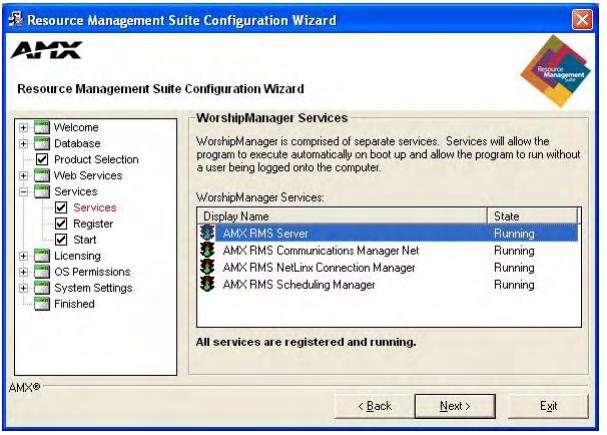


FIG. 123 RMS Application Suite Services Running

Click **Next** to proceed.

NOTE

The AMX RMS Server Service is the primary service. All other services depend on this service; therefore it must always be started first and stopped last. The Windows Services manager and the RMS application suite Service Manager Utility will not allow you to stop this service until all other services have been stopped. When starting one of the other services first, the Windows Services manager and the RMS application suite Service Manager Utility will start the RMS Server service first.

Licensing

The RMS application suite requires a Server serial number, and the appropriate client licenses to provide either Asset management or Scheduling functions as desired.

Server Licenses

To obtain RMS application suite licensing, contact AMX at:

- Contact AMX Global Customer Service at 800-222-0193
- by email at service@amx.com or
- contact your AMX dealer.

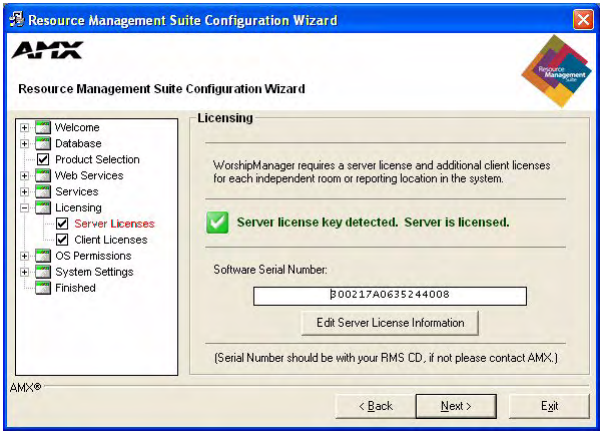


FIG. 124 Server License Detected

Click **Next** to continue.

If you do not have a RMS application suite license key and you opted to operate in Standard mode, the Configuration Wizard indicates the key was not detected and the *Software Serial Number* reads: **Standard Edition**.

Click **Next** to continue.

Enter Server Serial Number

The *Enter Server Serial Number* window (FIG. 125) allows you to set the RMS server serial number, company name and contact information. The **Manual Authorization** button allows you to authorize your RMS server without connecting to AMX.

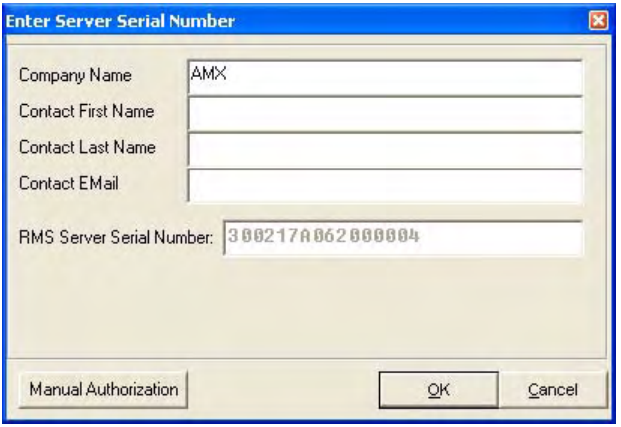


FIG. 125 Enter Server Serial Number

Manual Authorization

The *Manual Authorization* window allows you to finalize your server authorization without a connection to AMX.

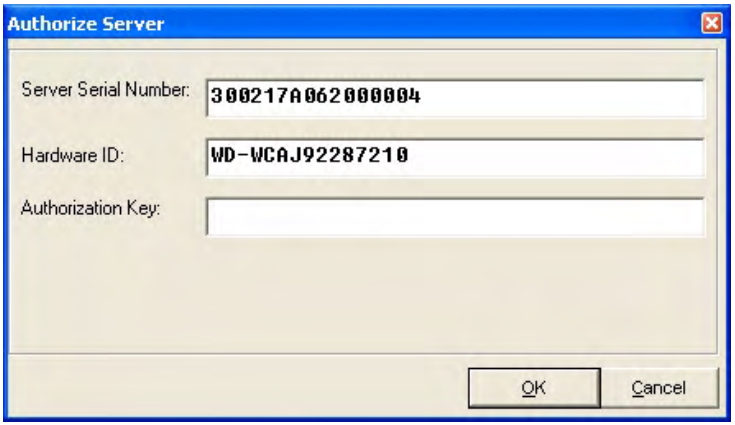


FIG. 126 Manual Authorization

- **Server Serial Number** - The number for your RMS server software installation.
- **Hardware ID** - This number is taken from the server.
- **Authorization Key** - This number can be provided by AMX when a proper connection cannot be made.

Manually authorizing your RMS server

If your RMS server cannot connect to AMX for authorization, follow these steps:

1. Contact AMX at one of the following to obtain an Authorization Key:
   - AMX Global Customer Service at 800-222-0193
   - by email at service@amx.com or
   - contact your AMX dealer.
2. In the *Server Licenses* section on page 244, click **Edit Server License Information**. This launches the *Enter Server Serial Number* section on page 245 dialog window.
3. Click the **Manual Authorization** button. This launches the *Manual Authorization* section on page 245 dialog window.
4. Type the AMX provided authorization key in the field provided and click **OK**.

Client Licenses

RMS application suite requires additional Client Licenses. Additional Client Licenses can be entered now, or at any time in the RMS application suite Configuration Wizard.

To obtain RMS application suite Client Licensing, contact AMX at:

- Contact AMX Global Customer Service at 800-222-0193
- by email at service@amx.com or
- contact your AMX dealer.

If you have a licensed RMS Premium edition with a software serial number, the Configuration Wizard displays the Software Serial Number and allows you to add or remove Client Licenses.

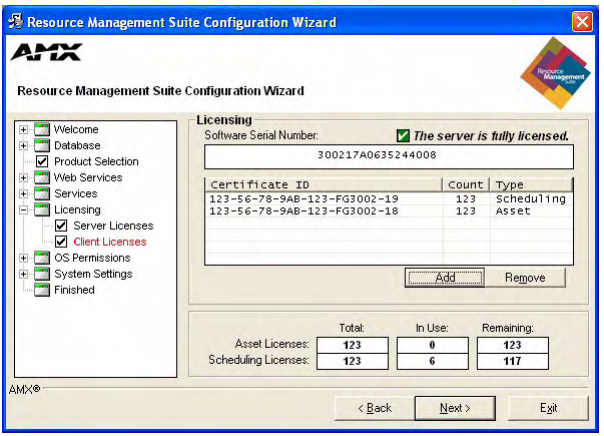


FIG. 127 Client Licenses

- To remove a client license, click on it and select **Remove**.
- Click **Add** to enter additional client licenses.

1. Enter the *Client License Certificate ID* and the *Authorization Key* in the appropriate fields.
2. Click **OK** to complete the client license entry.

If you do not wish to enter additional client licenses, click **Next** to continue.

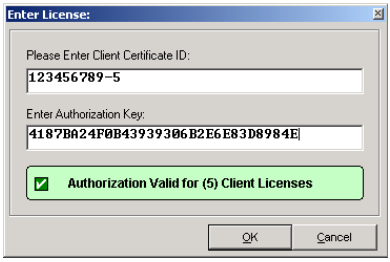


FIG. 128 Add Client License

If you do not have a RMS application suite license key installed and you opted to operate in Standard mode, the Configuration Wizard indicates the key was not detected and the *Software Serial Number* reads: **Standard Edition**.

Click **Next** to continue.

OS Permissions

Certain NTFS and registry access permissions may be required by the AMX RMS Scheduling Manager service to access resources on the RMS application suite server.

Service User

The configuration wizard automatically creates the appropriate NTFS and registry access permissions for the service user account. Below is a list of files and directories that require special permissions:

Web NTFS Permissions	
RMS application suite Registry Access	The RMS Scheduling Manager service user account must have read and write registry access permissions to the registry key: `HKEY_LOCAL_MACHINE\SOFTWARE\AMX Corp.\RMS`

If the *External Appointment Management/Scheduling System* option was not selected on the *Appointment Management/Scheduling System* step, or the scheduling service was registered with a the Local System user account, then no permissions need to be configured.

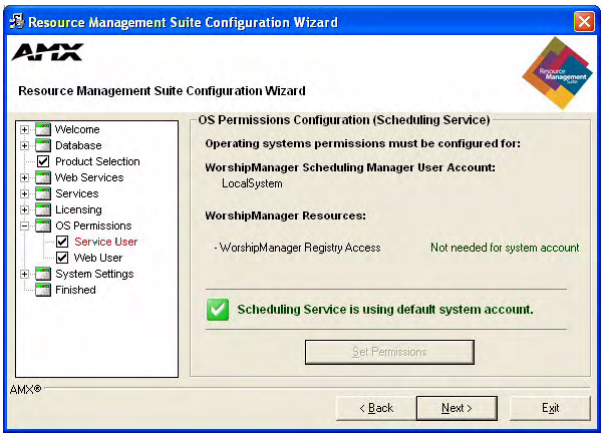


FIG. 129 OS Permissions Configuration (Scheduling Service) No Permissions Needed

Click **Next** to continue.

If the *External Appointment Management/Scheduling System* option was selected on the *Appointment Management/Scheduling System* step, and the scheduling service was registered with a user account other than the Local System account, then the Configuration Wizard ensures the scheduling server user account has all of the appropriate NTFS directory permissions and registry access permissions required to allow the scheduling service to interact with the system.

1. Click **Set Permissions** to begin.
2. Once the Configuration Wizard has completed setting all of the appropriate system permissions, it will indicate *Permissions Are Set*.
3. Click **Next** to continue.

Web User

NOTE

This screen may be skipped if your servers' file system is formatted as a FAT or FAT32 file system. These file systems do not support security options so this step is not required.

Certain NTFS permissions are required for the users of the web pages to access resources on the RMS application suite server. The configuration wizard automatically creates the appropriate NTFS permissions for the web users.

Below is a list of files and directories that require special permissions:

Web NTFS Permissions	
RMS application suite Dynamic Images Directory	The web users must have read and write access to the dynamic images directory.
RMS Temporary files directory	The web users must have read and write access to the temporary files directory.

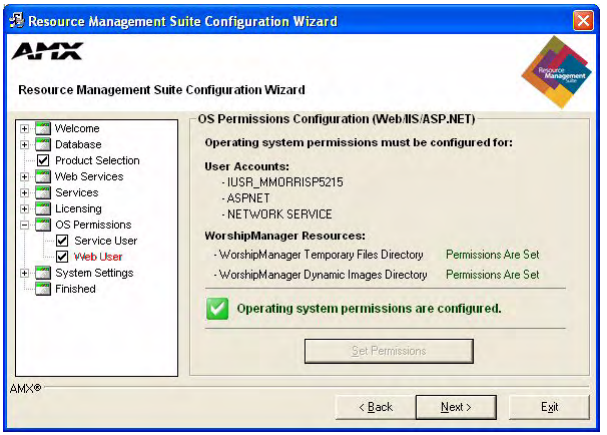


FIG. 130 OS Permissions Configuration (Web User)

1. To set the appropriate permissions, click **Set Permissions**.
2. Once the Configuration Wizard has completed setting all of the appropriate system permissions, it will indicate *Permissions Are Set*.
3. Click **Next** to continue.

System Settings

In the system settings section of the Configuration Wizard, the Configuration Wizard configures application specific setting and options.

NetLinx

The first step in the system settings section is the NetLinx Server Settings. All NetLinx systems must connect to the RMS application suite server over a TCP/IP connection. In this configuration step you can modify the IP Server Port the NetLinx systems uses to establish a connection and facilitate communication. The RMS application suite uses IP port 3839 by default.

NetLinx Server Settings	
TCP/IP Server Port	This field configures the IP port on which the RMS application suite server accepts connections from NetLinx masters. The default port is 3839, which is a IANA register port for RMS application suite communications. If you are upgrading from a version 1.0 of MeetingManager, you may wish to use port 9090. The MeetingManager 2.0 server is fully backwards compatible with the MeetingManager 1.0 NetLinx clients; however they will not take advantage of the new features and optimizations of 2.0. If this value is changed from one of the defaults, this new value must be configured in each NetLinx system using the 'SERVER-' command.
Ping Delay Time	The ping delay time is used to ensure that NetLinx clients are connected to the RMS application suite server. On this configured time interval, the RMS application suite server broadcasts request messages to the NetLinx clients. If the NetLinx clients do not respond within a specified amount of time, the MeetingManager server assumes the connection has been lost and the NetLinx system is offline. The default ping time is 30 seconds.
Ping Timeout Time	The ping timeout time setting is used as the maximum amount of time the MeetingManager server allows between NetLinx client ping responses. If the NetLinx client does not return a ping response within this amount of time, the RMS application suite server assumes the connection has been lost and the NetLinx system is offline. The default ping timeout time is 60 seconds.

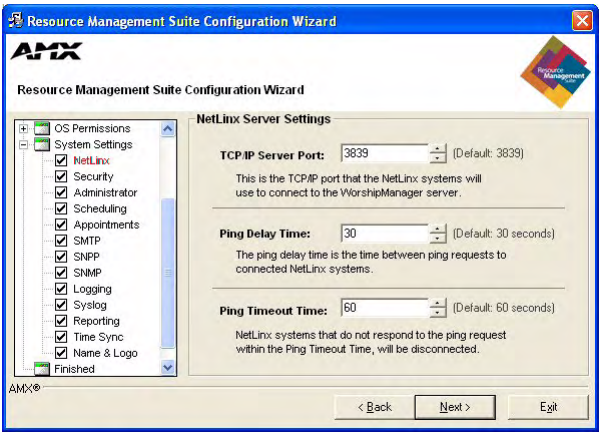


FIG. 131 NetLinx Server Settings

After completing these settings, click **Next** to continue.

Security

The next system settings section is the MeetingManager Security Settings. Here you can determine if you want to require user authentication to access the RMS application suite administrative web interface. If you want user authentication, check the *Enable User Account Management* option.

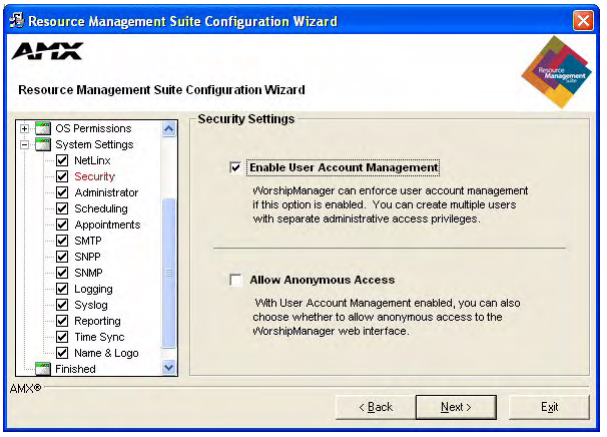


FIG. 132 Security Settings

If the *Enable User Account Management* option is checked, you can also choose to allow anonymous access to view the RMS application suite administrative web interface. To enable anonymous access, check the *Allow Anonymous Access* option.

After completing these settings, click **Next** to continue.

Administrator

NOTE

This screen may be skipped if you choose not to enable User Account Management.

If User Account Management is enabled, the Configuration Wizard automatically configures the default administrator account. The default administrator user name is *Admin*. You must enter the desired default administrator password in the field provided.

FIG. 133 Administrator Account

It is important to record this administrator username and password in a safe location. Once the default administrator account has been established, you cannot return to this step to alter it.

If the default administrator account has already been configured and you return to this step, the Configuration Wizard indicates *The Administrator account has already been configured* and does not allow you to alter the account.

Click **Next** to continue.

Scheduling

If the *Internal Appointment Management/Scheduling System* option was selected on the *Appointment Management/Scheduling System* step, then you will only need to enter a default master appointment password. This password is used to gain access to any user created appointment record in the system.

Appointment Modification Master Password	
Master Appointment Password	Type a password in the field provided. If this password is blank, there is no master password for modifying appointments. The default password is 1988.

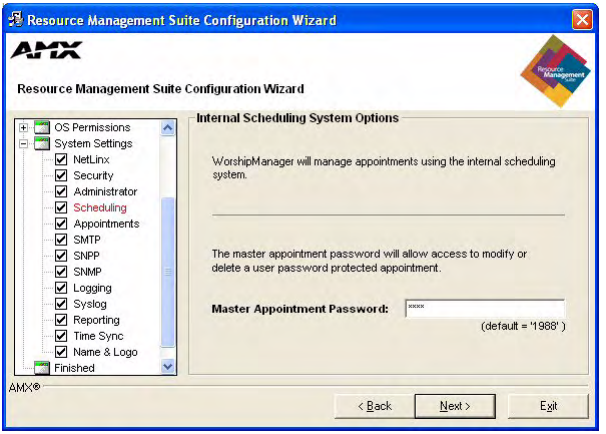


FIG. 134 Master Appointment Password Modification

Click **Next** to continue.

If the *External Appointment Management/Scheduling System* option was selected on the *Appointment Management/Scheduling System* step, then you need to configure which RMS application suite scheduling plug-in interface you wish to use with the RMS application suite.

For specific details on each scheduling plug-in, see the documentation that is associated with that plug-in.

After you have selected and registered the desired scheduling plug-in, click **Next** to continue.

Appointments

If the *Internal Appointment Management/Scheduling System* option was selected on the *Appointment Management/Scheduling System* step, you are presented with the dialog below.

FIG. 135 Internal Appointment Options

Internal Appointment Options	
Keep Expired Appointments For	After appointments have expired, the RMS application suite automatically remove them from the system after this elapsed time. The default setting is 90 days.

After completing these settings, click **Next** to continue.

If the *External Appointment Management/Scheduling System* option was selected on the *Appointment Management/Scheduling System* step, then you are presented with the dialog below.

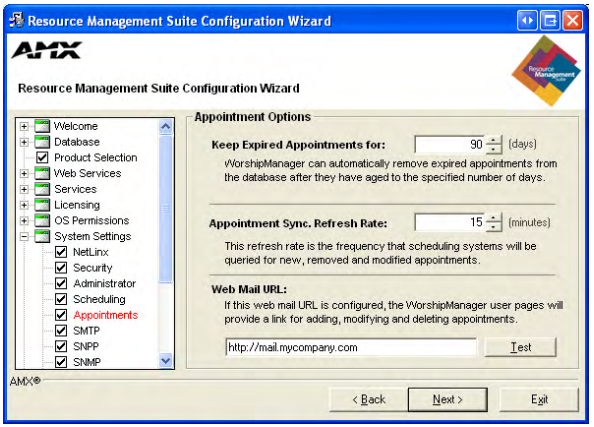


FIG. 136 External Appointment Options

External Appointment Options	
Keep Expired Appointments For	After appointments have expired, the RMS application suite automatically removes them from the system after this elapsed time. The default setting is 90 days.
Appointment Synchronization Refresh Rate	The RMS application suite scheduling service attempts to connect to your third-party scheduling system at this time interval to update all new, modified, and deleted appointment records. The default setting is 15 minutes.
Web Mail URL	If your third-party scheduling system has a web based interface, you should enter the web path in the web mail URL field. If your third-party scheduling system does not have a web based interface, make sure this field is empty. After entering the web path, you can click the Test button to verify the path.

After completing these settings, click **Next** to continue.

SMTP

SMTP or Simple Mail Transport Protocol is the standard for sending email on the Internet. The RMS application suite uses SMTP for sending email notifications to users.

Enter all the appropriate SMTP settings.

FIG. 137 SMTP Email System

SMTP Settings	
SMTP Enabled	Check this item to enable SMTP email delivery.
Server	Enter the IP address or host name of the SMTP server. IP port 25 is used for all SMTP communications.
Server Required Authentication	Check this item if your SMTP server requires a username and password authentication.
Username	Enter a valid username on the SMTP server.
Password	Enter the password for the username on the SMTP server.
Email Address	Enter an email address of which all notifications from the RMS application suite will be sent on behalf. You can enter up to 100 characters for an email address.
Reply Email Address	Enter the reply-to email address. Typically this is the same as the Email Address.
Friendly Name	Enter the display name you want to appear as the sender for notification emails.

You can test these SMTP setting using the **Test** button.

If you press the **Test** button, an SMTP Test dialog appears. Enter the email address you wish to send the test message. You can optionally modify the subject and message to send. When ready, press the **Send Test Message** button to send the text message.

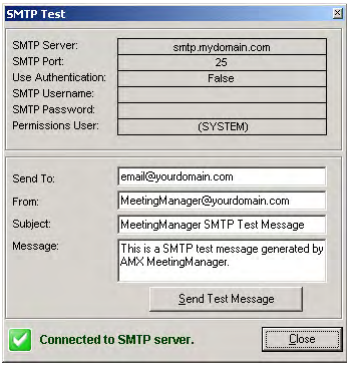


FIG. 138 SMTP Test

When you have competed testing, click **Close**.

Click **Next** to continue.

SNPP

SNPP or Simple Network Paging Protocol is an alternative method to SMTP for delivering text-based messages to alphanumeric pager and cellular phones. If your wireless provider supports SNPP messaging, the RMS application suite can send notifications messages to users using SNPP. SNPP is preferred over the standard SMTP method of delivering text messages to wireless devices, as it is more direct and efficient.

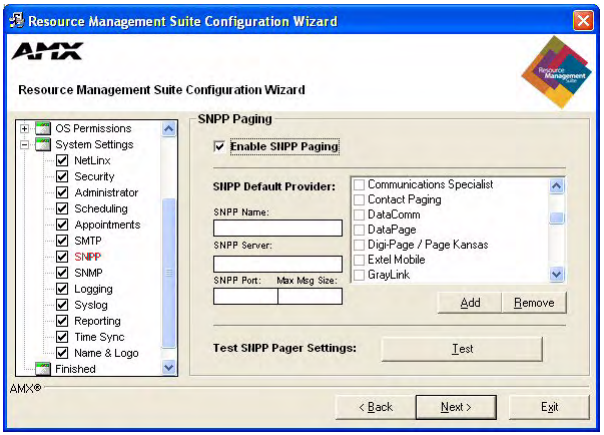


FIG. 139 SNPP Paging

SNPP Settings	
Enable SNPP Paging	Place a check in the box to enable SNPP Paging.
SNPP Default Provider	Make a selection from the list.
Add	If your SNPP provider is not in the provider list, you can add additional providers.
Remove	Remove an SNPP provider from the list.

If you wish to use SNPP paging, check the **Enable SNPP Paging** option and select a default SNPP provider from the provider list. If your SNPP provider is not in the provider list, you can add additional providers using the **Add** button.

You can test these SNPP settings using the **Test** button. If you press the **Test** button, a SNPP Pager Test dialog will appear. Enter the pager id for the mobile device you wish to send the test message. You can optionally modify the text message to send. When ready, press the **Send Test Message** button to send the text message.

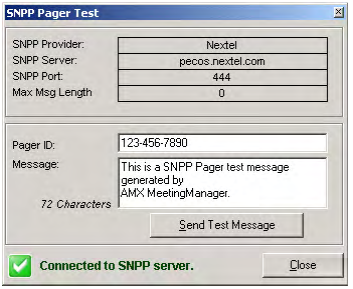


FIG. 140 SNPP Pager Test

When you have completed testing, click **Close**.

After you have finished setting the desired SNPP options, click **Next** to continue.

SNMP

The network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor rooms, systems, and devices in the RMS system.

FIG. 141 SNMP Service

SNMP Settings	
Enable RMS SNMP Services	Place a check in the box to enable SNMP Services.
SNMP Agent Port (161 default)	Type the port number to use for SNMP.
SNMP Community	The group to which devices and management stations running SNMP belong. This field is usually a "friendly" name.
SNMP Trap Community	An alert that is sent to a management station by agents. This field is usually a "friendly" name.
SNMP Trap Recipients	The name or IP address of hosts to which traps are to be sent. This is the management station, either a DNS name or IP address.
Add	Adds a new recipient.
Remove	Removes selected recipient.

Logging

The RMS application suite can record room device and parameter changes to an internal database log as well as the Windows event log.

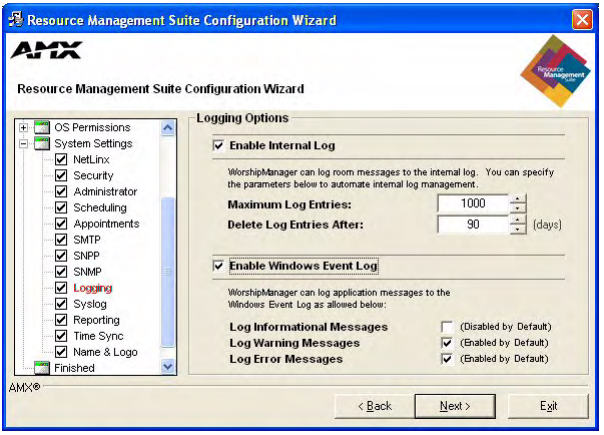


FIG. 142 Logging Options

Logging Options	
Enable Internal Log	Select this option to enable internal logging.
Maximum Log Entries	Enter the number of messages. If you would rather base the Internal Log size on dates of messages, set this value to 0 and set *Delete Log Entries After*.
Delete Log Entries After	Enter the number of days. If you would rather base the internal log size on number of messages, set this value to 0 and set *Keep Maximum Log Entries*.
Enable Windows Event Log	Select this option to enable event logging.
Log Informational Messages	If this option is selected, the RMS application suite server logs all informational type messages to the windows event log. It is not recommended to use this option, if a large number of messages are posted to the event log.
Log Warning Messages	If this option is selected, the RMS application suite server logs all warning type messages to the windows event log. It is recommended to use this option to record any warning level notifications.
Log Error Messages	If this option is selected, the RMS application suite server logs all error type messages to the windows event log. It is recommended to use this option to record any error level notifications.

After you have selected the desired logging options, click **Next** to continue.

Syslog

Syslog logging can also be used to log messages. You need to supply the Syslog Server IP Address or hostname and the Syslog IP Port to enable communication. The default syslog IP port is 514 and does not need to be changed unless you have a custom Syslog configuration.

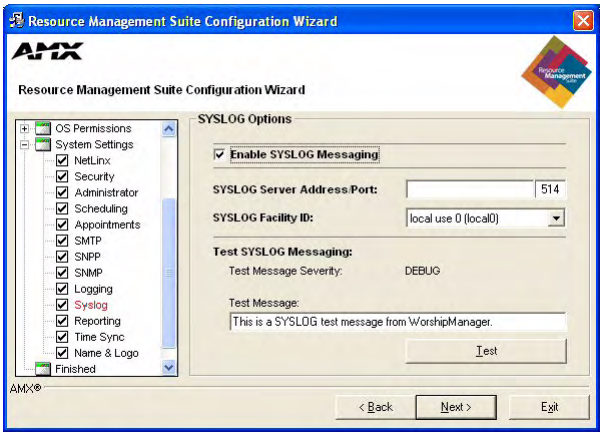


FIG. 143 SYSLOG Options

SYSLOG Options	
Enable SYSLOG Messaging	Select the Enable SYSLOG Messaging to enable Syslog messages.
Syslog Server Address/Port	Enter the IP address or host name for the Syslog server. Enter the IP port for the Syslog server.
Syslog Facility ID	Select the facility from the drop down list.
Test Message Severity	Select from the drop-down list the message level severity.
Test Message	Text field for the message to be sent.

You can test Syslog messages by setting some sample text in the *Test Message Severity* field, and clicking the **Test** button.

After you have selected the desired Syslog options, click **Next** to continue.

Reporting

The RMS application suite can provide detailed reporting on room device and parameter changes based on a tracked history.

FIG. 144 Reporting Options

Place a check next to *Enable Reporting* to allow for this function. You must also specify the number of days for the RMS application suite to track. Note, the larger the number of days, the greater the number of records the database needs to store and the longer report queries take to run. The default is *90* days.

After you have selected the desired reporting options, click **Next** to continue.

Time Sync

The RMS application suite can maintain time and date synchronization between the RMS server and the remote NetLinx systems.

Synchronize NetLinx System Time/Date: if this option is enabled, the RMS application suite server synchronizes the time and date on NetLinx systems upon connection and subsequently once each evening. This option is recommended to maintain a consistent time and date throughout the system.

Synchronize Server Time/Date: if this option is enabled, the RMS application suite server connects to an Internet time synchronization server once per evening and synchronizes the server local time and date. This option is recommended only if the server is not already synchronized by other means such as a network time synchronization program. When selecting this option you can select a NIST time server from the NIST Time Server drop-down list or type in your own NIST time server address. You can click the **Synchronization** button to test the time synchronization process.

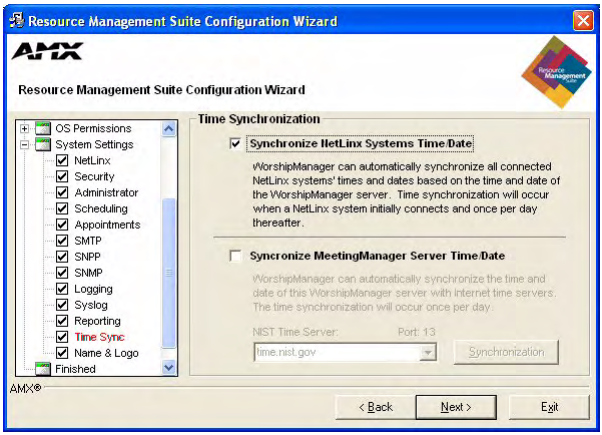


FIG. 145 Time Synchronization

After you have selected the desired time synchronization options, click **Next** to continue.

Name & Logo

The RMS application suite allows user customization of the web page title and web page logo graphic.

To change the web page title, please enter the desired name in the *Application Title* field.

Selecting one of the logo options below can customize the web page logo:

- **Default Logo** - If this option is selected, the RMS application suite uses the default logo graphic.
- **User Defined Logo** - If this option is selected, you can browse to select an image file of your choice.
- **Custom Created Logo** - If this option is selected, the RMS application suite uses a custom implemented logo image. This option provides the user a method to create a logo image that seamlessly matches the graphic style of the web pages without the need for a border or background color. For more information, please click the *How to Create Custom Logo?* link on this page of the Configuration Wizard.

FIG. 146 Name & Logo

Creating A Custom Logo

1. Open the "logo_custom.GIF" in your favorite graphics manipulation software. This file can be found in the "C:\Program Files\AMX Resource Management Suite\Web\App_Themes\MeetingManager\images" directory (if you used the default installation location).

The pixel dimensions for the logo are 147x101.

2. Add the logo to the image.
3. Save the logo to the "C:\Program Files\AMX Resource Management Suite\Web\App_Themes\MeetingManager\images" directory, make sure you save it as a .gif file and retain the name "logo_custom.GIF".
4. Use the configuration wizard to select "Custom Created Logo".

Finished

Congratulations you have completed the configuration wizard. You can return to the configuration wizard at any time to update or modify the RMS application suite settings.

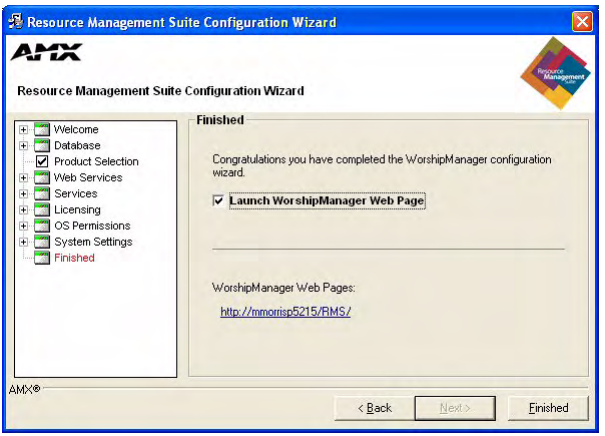


FIG. 147 Finished

Now that the RMS application suite server is fully configured, the administrative web pages are ready to use and the server is ready to accept NetLinx connections. If the *Launch RMS application suite Admin Web Page* option is selected, after closing the configuration wizard, the administrative web pages are automatically loaded. You now need to add users (*Creating a new User* section on page 91), add rooms (*Creating a new Room* section on page 84) and create notifications (*Creating a Notification* section on page 101).

Scheduling System Plug-ins

Scheduling Systems: Microsoft Exchange Plug-in

Overview

The RMS application installation includes the Exchange MAPI Appointment Interface for appointment synchronization with Microsoft Exchange servers. The Exchange MAPI Appointment Interface provides access to multiple Exchange servers, multiple Exchange mailboxes, and multiple Calendar folders within a single mailbox. This wide variety of connection options provides a robust and flexible solution for attaching RMS application rooms to Exchange calendars.

If you are using the Appointment Management features of the RMS application and you are using the RMS application with Exchange, some additional configuration is needed. Each room in the RMS application that has a schedule on the Exchange server needs to have access to that schedule through a mailbox on Exchange. You need to configure your Exchange server to have a calendar folder for each room in the RMS application. Normally, this is accomplished by creating a single mailbox for each room. The RMS application allows a room to read schedule information from the default calendar folder or a particular calendar folder. This allows you to use a single Exchange mailbox with multiple calendar folders for multiple rooms in the RMS application.

To read schedule information from an Exchange mailbox, the Exchange MAPI Appointment Interface connects to the Exchange server, logs into the mailbox and accesses the calendar folder. In order to do this, the user context of the RMS Scheduling Manager Service must have access to the Exchange mailbox. Normally, Windows services are run as the System account. In this configuration, the RMS Scheduling Manager Service needs to be configured to use an account that has access to every mailbox which the RMS application will access. The Configuration Wizard allows you to set the user for the RMS Scheduling Manager Service but you must configure Exchange to allow this user access to the mailboxes used by the RMS application. See *Appendix B: Configuring Microsoft Exchange Mailbox & Permissions* section on page 329 for more details on how to configure Exchange.

Compatibility Requirements

- The **Exchange MAPI Appointment Interface** can interface with Microsoft Exchange 2000, 2003, and 2007.
- The MAPI (Messaging Application Programming Interface) Subsystem must be installed on the RMS application server. (Installing Microsoft Outlook ensures that the MAPI subsystem is installed.)
- Microsoft has documented an issue with MAPI and Exchange 2000. This issue requires a patch from Microsoft to be installed on the Exchange 2000 server. Without this patch, the **RMS Scheduling Manager** service may stop responding.
  Please see this article:
  http://support.microsoft.com/default.aspx?scid=kb%3ben-us%3b326389

If you are attempting to use the RMS application with a Microsoft Exchange 5.5 server, it is important to note that the RMS application Configuration Wizard does not natively support the required **RMS Scheduling Manager** service configuration, and these steps must be performed manually. See *Appendix A: Service Configuration for Microsoft Exchange 5.5* section on page 325.

Microsoft has documented an issue with MAPI and Exchange 5.5. This issue requires a patch from Microsoft to be installed on the Exchange 5.5 server. Without this patch, the **RMS Scheduling Manager** service may stop responding

Please see this article:

http://support.microsoft.com/default.aspx?scid=kb%3ben-us%3b293150

Installation Checklist

Exchange MAPI Appointment Interface Install Checklist
• Create a calendar folder for each schedulable room in Exchange. You can use a single Exchange mailbox or multiple Exchange mailboxes to accomplish this.
• Create a user and grant that user access to the mailboxes that contain the schedule information. See *Appendix B: Configuring Microsoft Exchange Mailbox & Permissions* section on page 329 for more details on how to configure Exchange.
• Ensure the MAPI subsystem is installed on the RMS application server. Installing Microsoft Outlook installs the MAPI subsystem.
• In the Configuration Wizard, select *External Appointment Management/Schedule System* on the Scheduling page in the Welcome section.
• In the Configuration Wizard, configure the *Scheduling Manager Service* to run as the user created above.
• In the Configuration Wizard, you must register and configure the *Exchange MAPI Appointment Interface* scheduling plug-in.
For Each Room in the RMS application:
• Set *Room Is Schedulable* to **Yes** when adding new rooms. • When adding a new room, click the **Configure** button on the *Configure Exchange MAPI Appointment Interface* item and enter the Exchange server, mailbox names, and pick a calendar folder if you are not using the default calendar. • Use the **Test** button to ensure that the RMS application can access the mailbox and calendar.

Scheduling Plug-in Configuration

To use the *Exchange MAPI Appointment Interface* scheduling plug-in, it must first be registered. Only a single scheduling plug-in may be registered at one time. The plug-in configuration is performed in the Configuration Wizard under the *System Settings*, *Scheduling* node of the navigation tree.

The RMS application must be configured for External Scheduling Systems for the scheduling plug-in configuration dialog to be displayed.

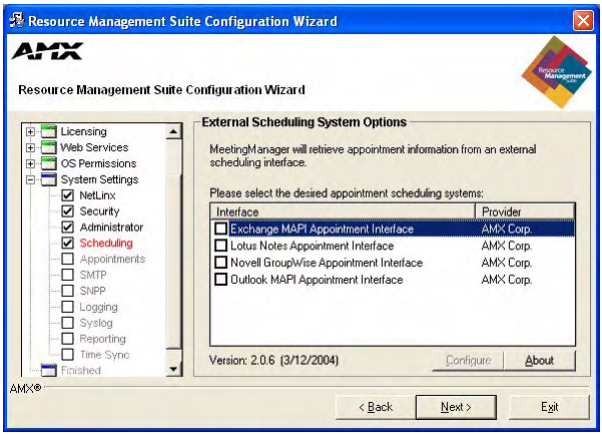


FIG. 148 External Scheduling System Options

To register the *Exchange MAPI Appointment Interface*, place a checkmark in the box to the left of the entry in the scheduling plug-in list. This will automatically load the plug-in configuration dialog.

The *Exchange Servers* tab provides the RMS application with a list of all the exchange servers to which you wish the RMS application to have access. These Exchange servers must be accessible via the network the RMS application server is on. Add all the desired Exchange servers to this list (Typically this will only be a single Exchange server). Additionally, you can place a check next to the Exchange server you wish to be the RMS application default Exchange server. This default setting forces the room configuration to select this server as the default in the list; however, you can specify any of the listed servers for a room.

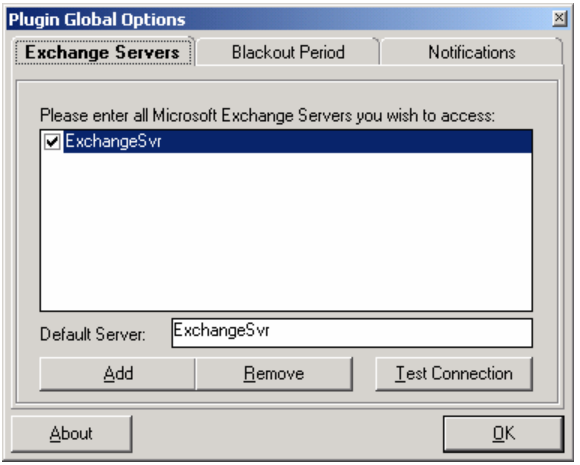


FIG. 149 Plug-in Options

After entering your Exchange servers, it is important to test access to each one. To test connection to an Exchange server, select it in the server list and click **Test Connection**.

The first dialog that appears displays the actual Windows user account that aligns with the configuration of the **RMS Scheduling Manager** service. If this account is incorrect, review the Service Registration topic in the Configuration Wizard documentation.

If the account is correct, click **OK** to continue.

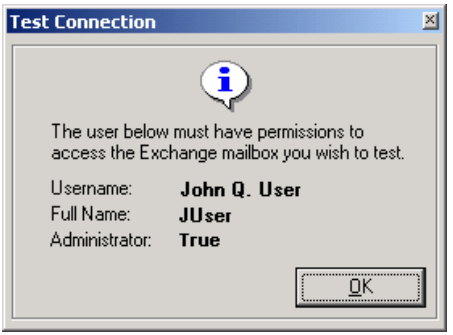

Test Connection
The user below must have permissions to access the Exchange mailbox you wish to test.
Username: John Q. User
Full Name: JUser
Administrator: True
OK

FIG. 150 Test Connection

Next, you are prompted to enter a mailbox on the Exchange server to test.

Enter a valid mailbox name and click **OK**.

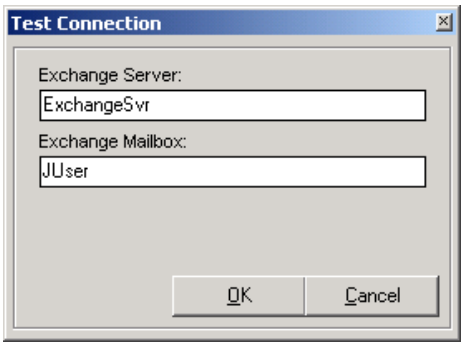


FIG. 151 Test Mailbox

If access to the Exchange server and mailbox was successful, the *Exchange MAPI Appointment Interface* test dialog will display a success message.

If a connection to the Exchange server was successfully, but the test was unable to access the specified mailbox, the *Exchange MAPI Appointment Interface* test dialog will display the following message:

The server and mailbox are valid but access to the mailbox is denied.

This error can be caused because the Windows user account the RMS Scheduling Manager service is configured as is incorrect or does not have access permissions to the specified mailbox. If this account is incorrect, review the *Service Registration* topic in the Configuration Wizard documentation. If the account is correct, you can view the *Configuring A Microsoft Exchange Mailbox & Permissions* in Appendix B.

The *Blackout Period* tab contains the settings for scheduling synchronization/ trolling blackout. During this blackout period, The RMS application will not attempt to establish a connection to any Exchange server. Many systems perform nightly backups or system related processing where the server may not be available or should not be accessed. The blackout option prevents the RMS application from accessing the server during these times. This option is enabled by default and is recommended. You may change the time frame to accommodate your specific environment.

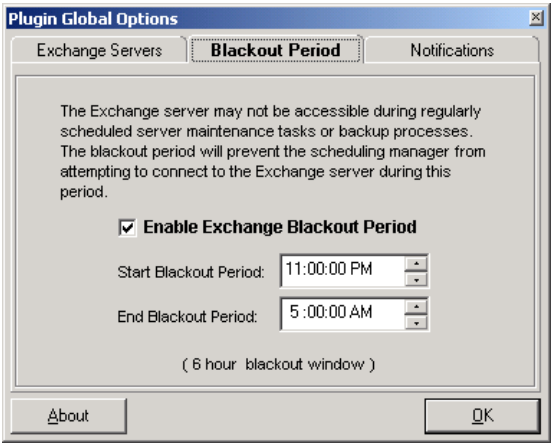

Plugin Global Options
Exchange Servers
Blackout Period
Notifications
The Exchange server may not be accessible during regularly scheduled server maintenance tasks or backup processes. The blackout period will prevent the scheduling manager from attempting to connect to the Exchange server during this period.
Enable Exchange Blackout Period
Start Blackout Period:
11:00:00 PM
End Blackout Period:
5:00:00 AM
(6 hour blackout window)
About
OK

FIG. 152 Blackout Period

The *Notifications* tab provides options for sending return notification emails to the appointment originator. If you select *Do Not Send Appointment Notifications*, the **Exchange MAPI Appointment Interface** will not send any notification emails to the appointment originator. Otherwise, the RMS application can deliver this appointment notification message via either MAPI or SMTP. Notifications routed via MAPI, are delivered to the originator directly on the Exchange server by the **Exchange MAPI Appointment Interface** scheduling plug-in. Notifications routed via SMTP are not delivered via the Exchange **MAPI Appointment Interface** scheduling plug-in, but rather through the standard RMS application email and notification system.

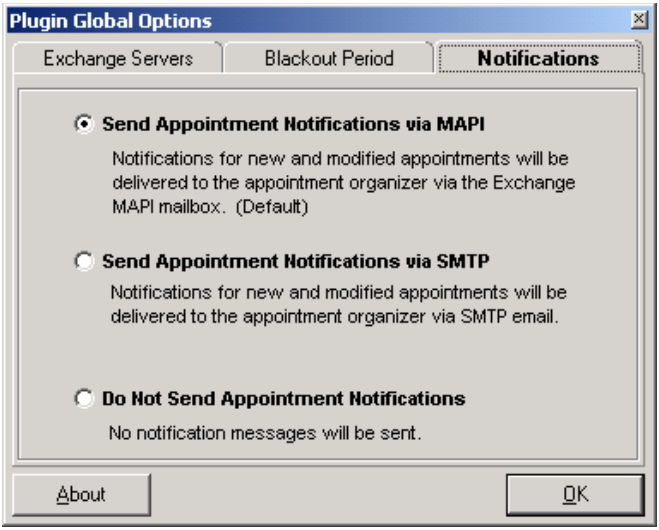

Plugin Global Options
Exchange Servers
Blackout Period
Notifications
Send Appointment Notifications via MAPI
Notifications for new and modified appointments will be delivered to the appointment organizer via the Exchange MAPI mailbox. (Default)
Send Appointment Notifications via SMTP
Notifications for new and modified appointments will be delivered to the appointment organizer via SMTP email.
Do Not Send Appointment Notifications
No notification messages will be sent.
About
OK

FIG. 153 Notifications

After you can set all the appropriate plug-in settings, click **OK** to complete the plug-in configuration. You can return to this configuration at any time using the Configuration Wizard, selecting this plug-in from the list, and clicking the **Configure** button.

Room Scheduling Configuration

For a given room to access a specific calendar on an Exchange mailbox, the room must first be configured with the appropriate access information. In the web administrative interface, when you add a new room or modify an existing room, you are provided with *Room Scheduling Settings*.

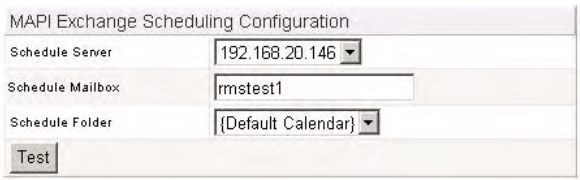


FIG. 154 Room Scheduling Settings

Configure Exchange MAPI Appointment Interface: click the **Configure** button to access the room scheduling configuration.

Schedule Server: select the desired Exchange server from the list. The default Exchange sever is initially selected.

Scheduling Mailbox: enter the mailbox/account that you wish this room to access and that exists on the selected Exchange server.

Schedule Folder: this field allows you to change the calendar folder that this room accesses on appointment synchronization and trolling cycles. By default it uses the default primary calendar folder.

Ensure that you only select a folder that contains appointments. The RMS application will not access emails, tasks, notes, etc.

After completing the room configuration fields, it is recommended to test the mailbox and calendar access using the **Test** button in the room scheduling plug-in configuration window.

If the RMS application successfully accesses the provided mailbox and calendar on the provided Exchange server, you are prompted with a success message.

Success: Connected Successfully to Mailbox.

If a connection to the Exchange server was successful but the application was unable to access the specified mailbox, the following message is displayed:

Failed: MAPI Logon Failure The server and mailbox are valid but access to the mailbox is denied.

This error can be caused because the Windows user account the **RMS Scheduling Manager** service is configured as is incorrect or does not have access permissions to the specified mailbox. If this account is incorrect, review the Service Registration topic in the Configuration Wizard documentation. If the account is correct, you can view the *Configuring A Microsoft Exchange Mailbox & Permissions* in Appendix B.

Once you have completed the room scheduling plug-in configuration and tested the mailbox successfully, make sure to click the **Save** button in the room scheduling plug-in configuration window to store your settings

Scheduling Systems: Microsoft Outlook Plug-in

Overview

The RMS application installation includes the **Outlook MAPI Appointment Interface** for appointment synchronization with Microsoft Outlook calendars. The **Outlook MAPI Appointment Interface** provides access to local mail profiles and multiple calendar folders within a single mailbox. This wide variety of connection options provides a robust and flexible solution for attaching RMS application rooms to Outlook calendars.

If you are using the Scheduling/Appointment Management features of the RMS application and you are using the RMS application with Outlook, some additional configuration is needed. Each room in the RMS application that requires access to an Outlook calendar needs to have access to that calendar through a local profile for Outlook. You need to configure your Outlook mail profile to have a calendar folder for each room in the RMS application. Normally, this is accomplished by creating a single mail profile for each room. The RMS application allows a room to read schedule information from the default calendar folder or a particular calendar folder. This allows you to use a single mail profile with multiple calendar folders for multiple rooms in the RMS application.

To read schedule information from a mail profile, the **Outlook MAPI Appointment Interface** connects to the mail profile, logs into the profile, and accesses the calendar folder. In order to do this, the user context of the RMS Scheduling Manager Service must have access to the local mail profile(s). Normally, Windows services are run as the System account. In this configuration, the RMS Scheduling Manager Service needs to be configured to use an account that has access to every mail profile which the RMS application accesses. The Configuration Wizard allows you to set the user for the **RMS Scheduling Manager Service,** but you must configure the mail profiles on the RMS application server for this user account. (See *Appendix D: Configuring A Local Mail Profile* section on page 341 for more details on how to configure local profiles.)

Compatibility Requirements

- The Outlook MAPI Appointment Interface can interface with Microsoft Outlook® 2000, 2003, and 2007.

- The MAPI (Messaging Application Programming Interface) Subsystem must be installed on the RMS application server. (Installing Microsoft Outlook® will ensure that the MAPI subsystem is installed.)

Installation Checklist

Outlook MAPI Appointment Interface Install Checklist
• Create a user account on the RMS application server and configure local mail profiles. See *Appendix D: Configuring A Local Mail Profile* section on page 341 for more details on how to configure Profiles.
• Create a mail profile for each schedulable RMS application room. You can use a single mail profile if each room is to access separate calendars on this single mail profile.
• Ensure the MAPI subsystem is installed on the RMS application server. Installing Microsoft Outlook installs the MAPI subsystem.
• In the Configuration Wizard, select External Appointment Management/Schedule System on the Scheduling page in the Welcome section.
• In the Configuration Wizard, configure the Scheduling Manager Service to run as the user created above.
• In the Configuration Wizard, you must register and configure the Outlook MAPI Appointment Interface scheduling plug-in.
For Each Room in the RMS application:
• Set *Room Is Schedulable* to **Yes** when adding new rooms. • When adding a new room, click the **Configure** button on the *Configure Outlook MAPI Appointment Interface* item and enter the mail profile. Select a calendar folder if you are not using the default calendar. • Use the **Test** button to ensure that the RMS application can access the mail profile and calendar.

Scheduling Plug-in Configuration

To use the **Outlook MAPI Appointment Interface** scheduling plug-in, it must first be registered. Only a single scheduling plug-in may be registered at one time. The plug-in configuration is performed in the Configuration Wizard under the *System Settings*, *Scheduling* node of the navigation tree.

NOTE

The RMS application must be configured for External Scheduling Systems for the scheduling plug-in configuration dialog to be displayed.

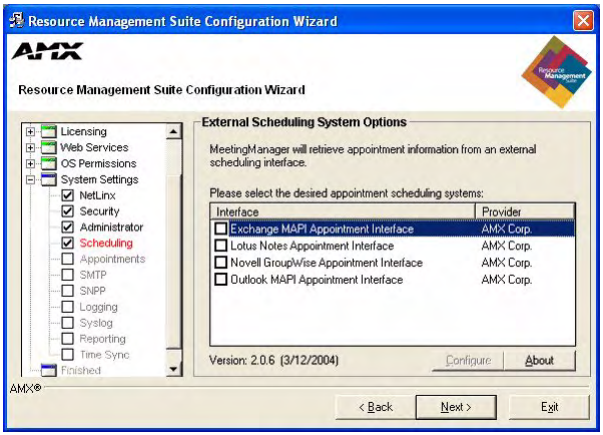


FIG. 155 External Scheduling System Options

To register the *Outlook MAPI Appointment Interface*, place a checkmark in the box to the left of the entry in the scheduling plug-in list. This automatically loads the plug-in configuration dialog.

The *Blackout Period* tab contains the settings for scheduling synchronization/trolling blackout. During this blackout period, The RMS application does not attempt to establish a connection to any mail profiles. Many systems perform nightly backups or system related processing where the mail profile may not be available or should not be accessed. The blackout option prevents the RMS application from accessing the profile during these times. This option is enabled by default and is recommended. You may change the time frame to accommodate your specific environment.

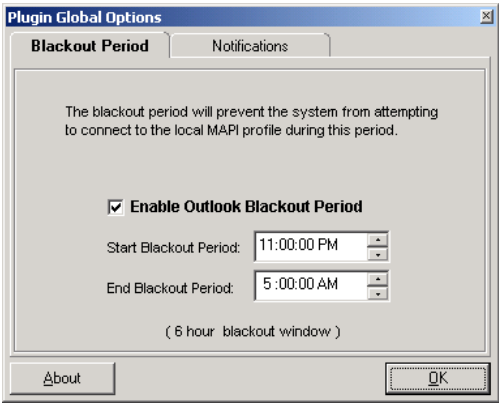


FIG. 156 Blackout Period

The *Notifications* tab provides options for sending return notification emails to the appointment originator. If you select *Do Not Send Appointment Notifications*, the **Outlook MAPI Appointment Interface** does not send any notification emails to the appointment originator. Otherwise, the RMS application can deliver this appointment notification message via either MAPI or SMTP. Notifications routed via MAPI, are delivered to the originator directly on the Outlook mail profile by the *Outlook MAPI Appointment Interface* scheduling plug-in. Notifications routed via SMTP are not delivered via the *Outlook MAPI Appointment Interface* scheduling plug-in, but rather through the standard RMS application email and notification system.

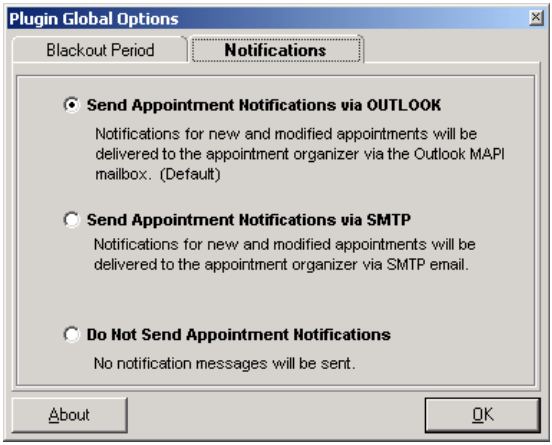

Plugin Global Options
Blackout Period
Notifications
Send Appointment Notifications via OUTLOOK
Notifications for new and modified appointments will be delivered to the appointment organizer via the Outlook MAPI mailbox. (Default)
Send Appointment Notifications via SMTP
Notifications for new and modified appointments will be delivered to the appointment organizer via SMTP email.
Do Not Send Appointment Notifications
No notification messages will be sent.
About
OK

FIG. 157 Notifications

After you set all the appropriate plug-in settings, click **OK** to complete the plug-in configuration. You can return to this configuration at any time using the Configuration Wizard, selecting this plug-in from the list, and clicking the **Configure** button.

Room Scheduling Configuration

For a given room to access a specific calendar on an Exchange mailbox, the room must first be configured with the appropriate access information. In the web administrative interface, when you add a new room or modify an existing room, you are provided with *Room Scheduling Settings*.

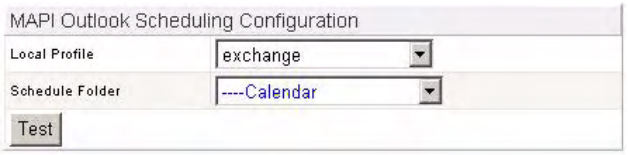


FIG. 158 Room Scheduling Settings

Configure Outlook MAPI Appointment Interface: click the **Configure** button to access the room scheduling configuration.

The room scheduling configuration popup page appears and allows you to configure this room's scheduling options.

Local Profile: select the local profile from the drop down list of profiles. These mail profiles are based on the user account the **RMS Scheduling Manager Service** is configured to logon as.

Schedule Folder: this field allows you to change the calendar folder that this room accesses on appointment synchronization and trolling cycles. By default it uses the default primary calendar folder, or you can change the folder by clicking the **Select** button.

Ensure that you only select a folder that contains appointments. The RMS application does not access emails, tasks, notes, etc.

After completing the room configuration fields, it is recommended to test the mailbox and calendar access using the **Test** button in the room scheduling plug-in configuration window.

If the RMS application successfully accesses the provided mail profile and calendar on the provided Exchange server, you are prompted with a success message.

Success: Connected Successfully to Mailbox.

Once you have completed the room scheduling plug-in configuration and tested the mailbox successfully, make sure to click the **Save** button in the room scheduling plug-in configuration window to store your settings.

Scheduling Systems: Novell GroupWise Plug-in

Overview

The RMS application installation includes the **Novell GroupWise Appointment Interface** for appointment synchronization with Novell GroupWise calendars. The Novell GroupWise Appointment Interface provides access to GroupWise mailboxes.

If you are using the Scheduling/Appointment Management features of the RMS application and you are using the RMS application with Novell GroupWise, some additional configuration is needed. Each room in the RMS application that requires access to a GroupWise calendar needs to have access to that calendar through a GroupWise mailbox. The **Novell GroupWise Appointment Interface** needs to logon to GroupWise using a single primary login account. After a successful logon, the **Novell GroupWise Appointment Interface** can fully access the mailbox's calendar and appointments. The **Novell GroupWise Appointment Interface** can access other mailbox calendars using a proxy logon. Each GroupWise mailbox you wish to access must grant the primary logon account proxy access to their respective calendars. For more information on how to grant proxy access to GroupWise mailboxes, see *Appendix C: Configuring Novell GroupWise Mailbox Proxy Access* section on page 337.

Compatibility Requirements

- The Novell GroupWise Appointment Interface can interface with Novell GroupWise® 6.0 and 6.5.
- The Novell GroupWise Object API must be installed. (Installing Novell GroupWise® 6.x Client automatically installs Novell GroupWise Object API.)

Installation Checklist

Novell GroupWise Appointment Interface Install Checklist
• Create a primary GroupWise mailbox/account for the **RMS Scheduling Manager** service. This primary mailbox/account is used to actually logon to the GroupWise server.
• Create a GroupWise mailbox for each schedulable RMS application room. Grant proxy access to each of these room mailboxes to the primary mailbox/account. (for more information on how to configure proxy access, see *Appendix C: Configuring Novell GroupWise Mailbox Proxy Access* section on page 337).
• Install and configure the GroupWise 6.x Client using the primary mailbox/account on the RMS application server.
• In the Configuration Wizard, select *External Appointment Management/Schedule System* on the Scheduling page in the Welcome section.
• In the Configuration Wizard, configure the Scheduling Manager Service to run as the system account or an administrative account.
• In the Configuration Wizard, you must register and configure the **Novell GroupWise Appointment Interface** scheduling plug-in.
For Each Room in the RMS application:
• Set *Room Is Schedulable* to **Yes** when adding new rooms. • When adding a new room, click the **Configure** button on the *Configure Novell GroupWise Appointment Interface* item and enter the appropriate GroupWise proxy mailbox. • Use the **Test** button to ensure that the RMS application can access the GroupWise mailbox.

Scheduling Plug-in Configuration

To use the **Novell GroupWise Appointment Interface** scheduling plug-in, it must first be registered. Only a single scheduling plug-in may be registered at one time. The plug-in configuration is performed in the Configuration Wizard under the *System Settings*, *Scheduling* node of the navigation tree.

The RMS application must be configured for External Scheduling Systems for the scheduling plug-in configuration dialog to be displayed.

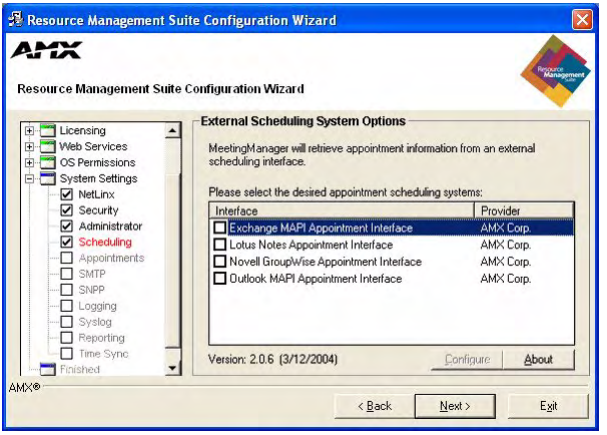


FIG. 159 External Scheduling System Options

To register the **Novell GroupWise Appointment Interface**, place a checkmark in the box to the left of the entry in the scheduling plug-in list. This automatically loads the plug-in configuration dialog.

The *GroupWise Mailbox* tab contains the access settings for scheduling synchronization/trolling. The **Novell GroupWise Appointment Interface** scheduling plug-in uses a single primary GroupWise mailbox/account to logon to the GroupWise server. All other mailboxes are accessed via proxy permissions.

GroupWise Mailbox: enter the primary GroupWise account name.

GroupWise Password: enter the primary GroupWise account password. (if required)

NOTE

You must configure the Novell GroupWise Client program on the RMS application server prior to configuring the Novell GroupWise Appointment Interface scheduling plug-in.

After entering the GroupWise primary account mailbox and password, you need to test the GroupWise primary account/mailbox access. Click **Test Connection** to begin the connection test.

If the connection is established successfully, you are prompted with a success message:

Connected successfully to GroupWise mailbox:

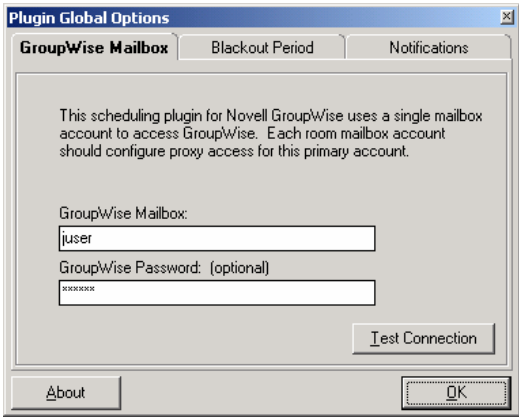


FIG. 160 GroupWise Mailbox

If the Novell GroupWise Appointment Interface scheduling plug-in is not able to connect to the GroupWise mailbox, you are prompted with a connection failure message:

Connection to GroupWise Mailbox Failed!

The *Blackout Period* tab contains the settings for scheduling synchronization/trolling blackout. During this blackout period, the RMS application does not attempt to establish a connection to any GroupWise mailboxes. Many systems perform nightly backups or system related processing where the mailbox may not be available or should not be accessed. The blackout option prevents the RMS application from accessing the mailbox during these times. This option is enabled by default and is recommended. You may change the time frame to accommodate your specific environment.

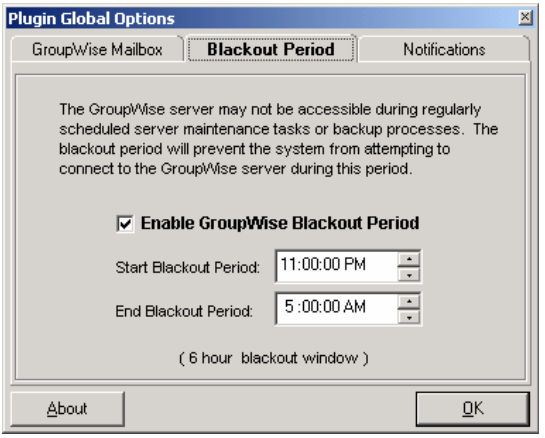

Plugin Global Options
GroupWise Mailbox
Blackout Period
Notifications
The GroupWise server may not be accessible during regularly scheduled server maintenance tasks or backup processes. The blackout period will prevent the system from attempting to connect to the GroupWise server during this period.
Enable GroupWise Blackout Period
Start Blackout Period:
11:00:00 PM
End Blackout Period:
5 :00:00 AM
(6 hour blackout window)
About
OK

FIG. 161 Blackout Period

The *Notifications* tab provides options for sending return notification emails to the appointment originator. If you select *Do Not Send Appointment Notifications*, the Novell GroupWise Appointment Interface does not send any notification emails to the appointment originator. Otherwise, the RMS application can deliver this appointment notification message via either GroupWise or SMTP. Notifications routed via GroupWise are delivered to the originator directly on the GroupWise mailbox by the **Novell GroupWise Appointment Interface** scheduling plug-in. Notifications routed via SMTP are not delivered via the **Novell GroupWise Appointment Interface** scheduling plug-in, but rather through the standard RMS application email and notification system.

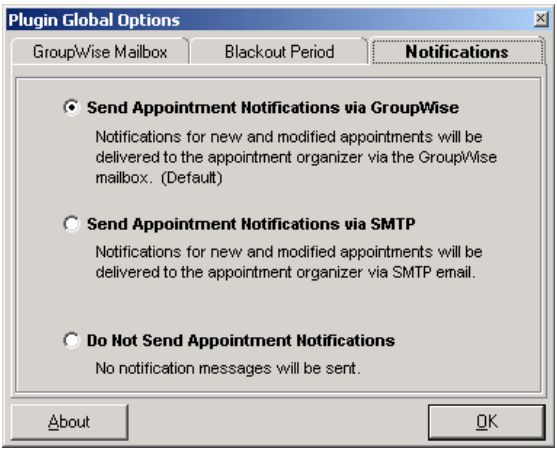

Plugin Global Options
GroupWise Mailbox
Blackout Period
Notifications
Send Appointment Notifications via GroupWise
Notifications for new and modified appointments will be delivered to the appointment organizer via the GroupWise mailbox. (Default)
Send Appointment Notifications via SMTP
Notifications for new and modified appointments will be delivered to the appointment organizer via SMTP email.
Do Not Send Appointment Notifications
No notification messages will be sent.
About
OK

FIG. 162 Notifications

After you set all the appropriate plug-in settings, click OK to complete the plug-in configuration. You can return to this configuration at any time using the Configuration Wizard, selecting this plug-in from the list, and clicking the Configure button.

Room Scheduling Configuration

For a given room to access a specific calendar on an GroupWise mailbox, the room must first be configured with the appropriate access information. In the web administrative interface, when you add a new room or modify an existing room, you will be provided with **Room Scheduling Settings**.

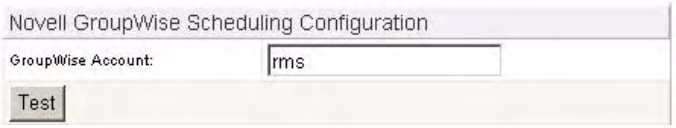


FIG. 163 Room Scheduling Settings

Configure Novell GroupWise Appointment Interface: click the Configure button to access the room scheduling configuration.

The room scheduling configuration popup page appears and allows you to configure this room's scheduling options.

GroupWise Account: enter the desired GroupWise mailbox/account name with which this room should synchronize.

After completing the room configuration fields, it is recommended to test the mailbox and calendar access using the **Test** button in the room scheduling plug-in configuration window.

If the RMS application successfully accesses the provided GroupWise mailbox, you are prompted with a success message.

Success: Connected Successfully to Mailbox.

If the RMS application connects to the GroupWise server and is unable to access the GroupWise mailbox, you are prompted with an error message.

Failed: GroupWise Proxy Account Access Denied: Could not proxy for user.

If you get this error, the mailbox you are attempting to access is not configured for proxy access or does not have the appropriate proxy permissions. For more information on how to grant proxy access to GroupWise mailboxes, see the *Appendix C: Configuring Novell GroupWise Mailbox Proxy Access* section on page 337.

Once you have completed the room scheduling plug-in configuration and tested the mailbox successfully, make sure to click the **Save** button in the room scheduling plug-in configuration window to store your settings.

Scheduling Systems: Lotus Notes Plug-in

Overview

The RMS application installation includes the *Lotus Notes Appointment Interface* for appointment synchronization with Lotus Notes servers. The *Lotus Notes Appointment Interface* provides access to multiple Notes resources, mailboxes or databases, and multiple Calendar views within a single database. This wide variety of connection options provides a robust and flexible solution for attaching RMS application rooms to Notes calendars.

If you are using the Appointment Management features of the RMS application and you will be using the RMS application with Lotus Notes, some additional configuration is needed. Each room in the RMS application that has a schedule on the Notes server will need to have access to that schedule in Notes. You will need to configure your Notes server to allow access to a calendar view for each room in the RMS application. The calendar view in Notes can be a standard resource entered in the Resource Reservation database or a calendar view of a mail user. If you have a custom calendar implementation, you can use a mapping in the RMS application to read schedules from any database.

To read schedule information from Lotus Notes, the *Lotus Notes Appointment Interface* will connect to the Notes server, login to a mailbox and access a database view containing schedule information. In order to do this, the user context of the *Lotus Notes Appointment Interface* must have access to the Notes database from which it will read. A Lotus Notes client must be installed on the RMS application server and a Notes account must allow a login from the Notes Client. This account will need access to each Notes database from which schedule information will be read. See the *Appendix E: Configuring Lotus Notes Database & Permissions* section on page 345 for more details on how to configure Notes.

Compatibility Requirements

The *Lotus Notes Appointment Interface* can interface with Lotus Notes R5/R6.

The Notes Client must be installed on the RMS application server. An account must be created for the RMS application and this account must be able to logon using the installed Lotus Notes client.

The RMS application account must have read access to all databases from which the RMS application will read scheduling information.

Installation Checklist

Lotus Notes Appointment Interface Install Checklist
• Create or identify a calendar view for each schedulable room in Notes. This can be a resource, a mailbox or any custom view or search query on a database that contains schedule information
• Create a user and grant that user access to the databases that contain the schedule information. See the *Appendix E: Configuring Lotus Notes Database & Permissions* section on page 345 for more details on how to configure Notes.
• Ensure the Notes client is installed on the RMS application server and that the newly created account can logon to Notes using the installed Notes Client.
• In the Configuration Wizard, select *External Appointment Management/Schedule System* on the Scheduling page in the Welcome section.
• In the Configuration Wizard, configure the Scheduling Manager Service to run as the system user (default).
• In the Configuration Wizard, you must register and configure the *Lotus Notes Appointment Interface* scheduling plug-in.
For Each Room in the RMS application:
• When adding a new room, the configuration fields for Lotus Notes is displayed at the bottom of the modify room page. Please enter the Notes server, resource, mailbox name, or custom view and mapping. • Ensure that a Scheduling license is assigned to each room. • Use the **Test** button to ensure that the RMS application can access the schedule information.

Scheduling Plug-in Configuration

To use the *Lotus Notes Appointment Interface* scheduling plug-in, it must first be registered. Only a single scheduling plug-in may be registered at one time. The plug-in configuration is performed in the Configuration Wizard under the *System Settings*, *Scheduling* node of the navigation tree.

NOTE

The RMS application must be configured for External Scheduling Systems for the scheduling plug-in configuration dialog to be displayed.

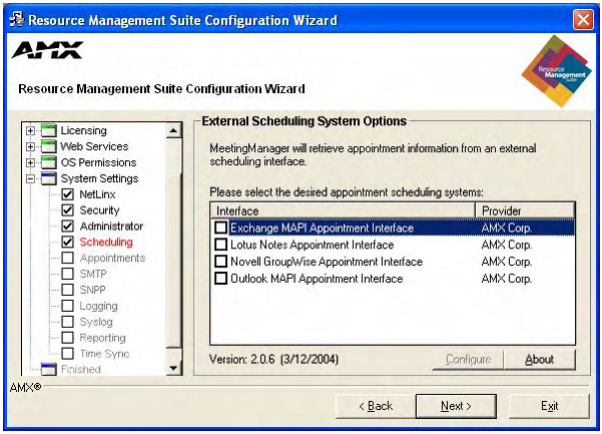


FIG. 164 External Scheduling System Options

To view version information or provider information about the scheduling plug-in, select the *Lotus Notes Appointment Interface* from the scheduling plug-in listing, then click the About button. An **About** dialog will appear providing information about the specific scheduling plug-in.

To register the *Lotus Notes Appointment Interface*, place a checkmark in the box to the left of the entry in the scheduling plug-in list. This will automatically load the plug-in configuration dialog.

The *Lotus Notes* tab provides the RMS application with a password with which to login to Notes. The RMS application will use the account the Notes Client has been configured as to login. Enter the Domino server name and the password for this account.

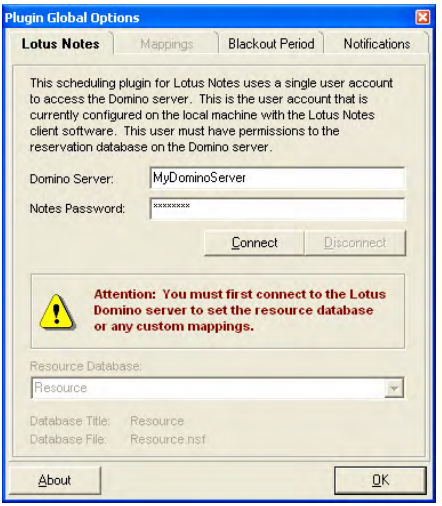

Plugin Global Options
Lotus Notes
Mappings
Blackout Period
Notifications
This scheduling plugin for Lotus Notes uses a single user account to access the Domino server. This is the user account that is currently configured on the local machine with the Lotus Notes client software. This user must have permissions to the reservation database on the Domino server.
Domino Server:
MyDominoServer
Notes Password:
****
Connect
Disconnect
Attention: You must first connect to the Lotus Domino server to set the resource database or any custom mappings.
Resource Database:
Resource
Database Title: Resource
Database File: Resource.nsf
About
OK

FIG. 165 Lotus Notes Tab

After entering the Domino server and Notes password you will need to connect to the Lotus Domino server by clicking the **Connect** button.

Note: *A successful connection is required to configure the Resource Database and any custom mappings.*

If access to Notes was successful, the *Lotus Notes Appointment Interface* test dialog will display a success message.

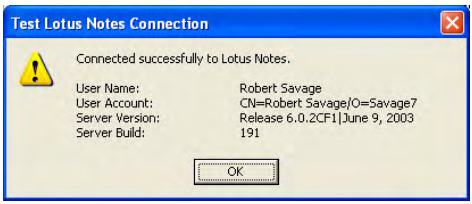


FIG. 166 Test Connection

After a successful connection to the Domino server has been established, the next item to configure is the Resource Reservation Database. At the bottom of the Lotus Notes tab is a drop down list of all the databases provided on the Domino server. Select the *Resource* database from the list.

Note: *The name of this database will vary depending on how it was named when it was created. In general practice it is often the database file name: "resource.nsf". This database is the central data store for all resources and resource reservations in your organization. This is the database that was created using the Resource Reservations database template that is installed with Lotus Domino server.*

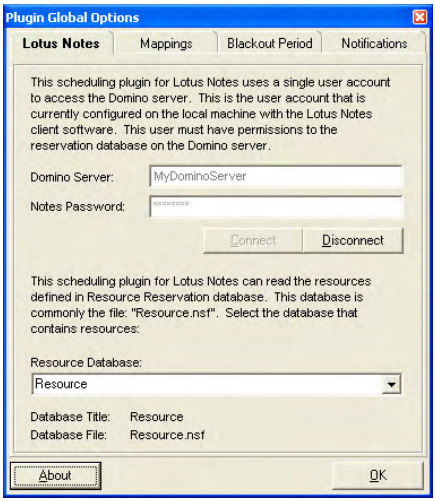

Plugin Global Options
Lotus Notes
Mappings
Blackout Period
Notifications
This scheduling plugin for Lotus Notes uses a single user account to access the Domino server. This is the user account that is currently configured on the local machine with the Lotus Notes client software. This user must have permissions to the reservation database on the Domino server.
Domino Server:
MyDominoServer
Notes Password:
Connect
Disconnect
This scheduling plugin for Lotus Notes can read the resources defined in Resource Reservation database. This database is commonly the file: "Resource.nsf". Select the database that contains resources:
Resource Database:
Resource
Database Title: Resource
Database File: Resource.nsf
About
OK

FIG. 167 Resource Reservation Database

The *Mappings* tab provides the RMS application with a list of the Notes mapping you wish the RMS application to use. Notes mapping are used for custom Notes

scheduling implementations. If your Lotus Notes system is using the Lotus provided resource reservations database, then a custom mapping is not needed. A Notes mapping is a list of fields that the RMS application can use to read schedule information from a Notes database using a custom search formula or view. The RMS application can read scheduling information from any Notes database; however, each custom mapping must contain scheduling information for a single room. A single custom mapping can be used across multiple databases. For example, if each room's reservation records were contained in their own separate database files and they can be queried using the same view or search formula then they could share a single custom mapping. On the other hand, if all appointment records for multiple rooms are stored in a single database, then a mapping would need to be created for each room. Additionally, you can place a check next to the Notes mapping you wish to be the RMS application default Notes mapping. This default setting forces the room configuration to select this mapping as the default in the list; however, you can specify any of the listed mappings for a room.

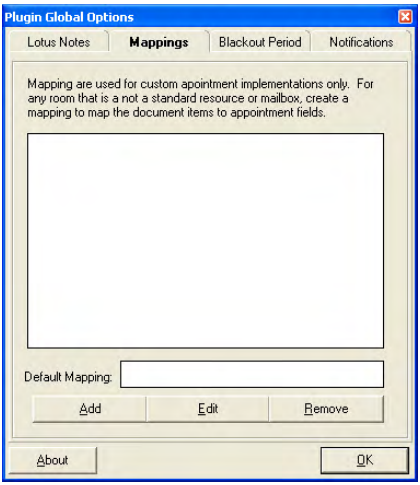


FIG. 168 Mappings Tab

To add a new mapping, click **Add.** To modify an existing mapping, highlight the mapping you wish to edit and click **Edit**. To remove a mapping, highlight the mapping you with to remove and click **Remove**. If you remove the default mapping, make sure to select a default mapping from any remaining mapping.

To add or edit a mapping, first select the database which contains the view for which you want to create a mapping.

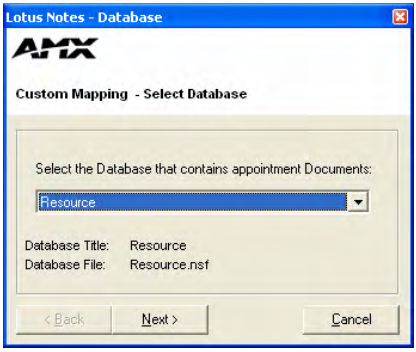


FIG. 169 Mapping Database

Next, you must provide the selection formula to query the database. You can type in a custom selection formula using the Notes @function formula syntax or you can select a pre-defined database view

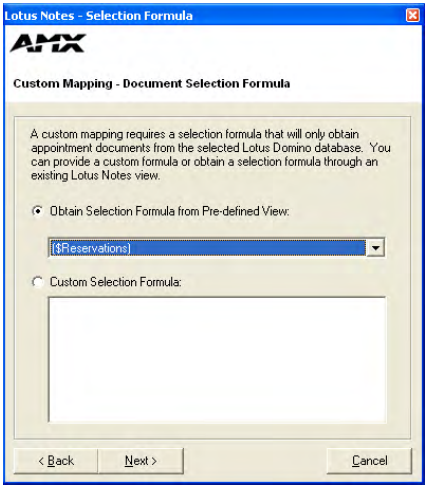

Lotus Notes - Selection Formula
AMX
Custom Mapping - Document Selection Formula
A custom mapping requires a selection formula that will only obtain appointment documents from the selected Lotus Domino database. You can provide a custom formula or obtain a selection formula through an existing Lotus Notes view.
Obtain Selection Formula from Pre-defined View:
($Reservations)
Custom Selection Formula:
< Back
Next >
Cancel

FIG. 170 Mapping View

The custom selection formula option provides a very powerful and efficient method to obtain the scheduling records from a Notes database. To learn more about the Lotus Notes @function formula syntax, please see the topic *Formula Language* in the *Lotus Notes Designer* help documentation.

Lotus Notes - Selection Formula
AMX
Custom Mapping - Document Selection Formula
A custom mapping requires a selection formula that will only obtain appointment documents from the selected Lotus Domino database. You can provide a custom formula or obtain a selection formula through an existing Lotus Notes view.
Obtain Selection Formula from Pre-defined View:
Custom Selection Formula:
(@Contains(@UpperCase(Form); "RESERVATION"))
& @IsAvailable($BusyName);
< Back
Next >
Cancel

FIG. 171

Finally, select the fields that correspond to the schedule information required by the RMS application. If your scheduling implementation does not offer the information required by the RMS application, do not select a field from the view in the respective combo box. To limit the fields in each box to only those types compatible with the RMS application, check the *Show Compatible Types Only* checkbox. To view all fields, uncheck the *Show Compatible Types Only* checkbox.

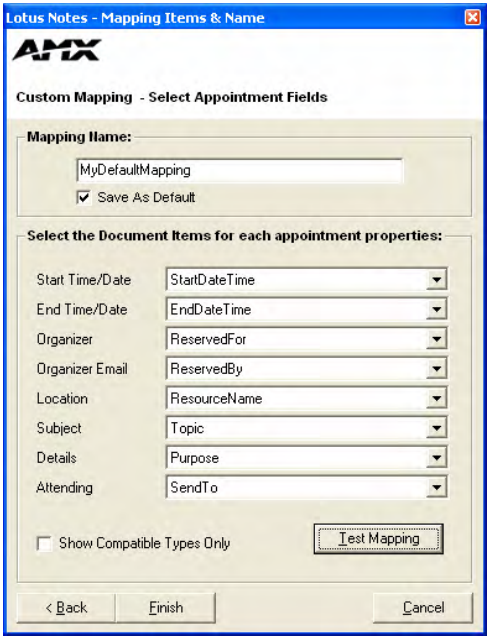


FIG. 172 Mapping Items

Once you have selected the fields for each RMS application option, you should test the mapping. Click **Test Mapping** to view how the information from the view will be imported into the RMS application. The test is performed on the first records retuned from the selected database using the custom selection formula or view.

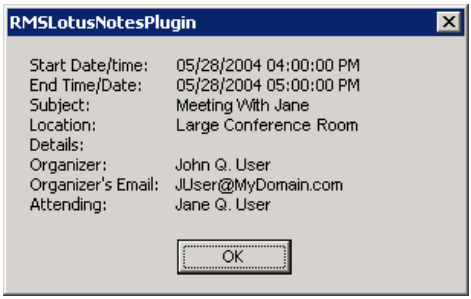


FIG. 173 Test Mapping

Once you have verified that all the correct fields have been selected, enter a name for the mapping. You can choose if you would like this mapping to be the default by checking the *Save As Default* checkbox. Click **Finish** when you have entered a name.

The *Blackout Period* tab contains the settings for scheduling synchronization/ trolling blackout. During this blackout period, the RMS application will not attempt to establish a connection to any Notes server. Many systems perform nightly backups or system related processing where the Notes server is not available or should not be accessed, and this blackout option will prevent any interruptions. This option is enabled by default and is recommended. You may change the time frame to accommodate your specific environment.

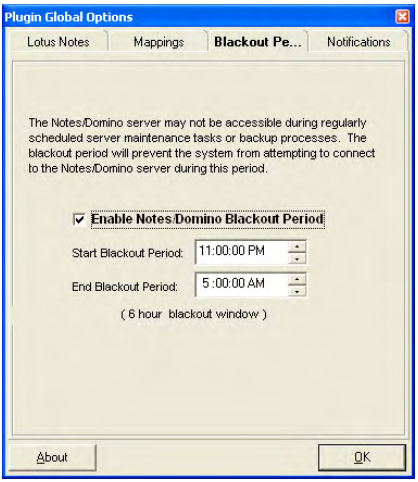

Plugin Global Options
Lotus Notes
Mappings
Blackout Pe...
Notifications
The Notes/Domino server may not be accessible during regularly scheduled server maintenance tasks or backup processes. The blackout period will prevent the system from attempting to connect to the Notes/Domino server during this period.
Enable Notes/Domino Blackout Period
Start Blackout Period:
11:00:00 PM
End Blackout Period:
5:00:00 AM
(6 hour blackout window)
About
OK

FIG. 174 Blackout Period Tab

The *Notifications* tab provides system options for return notification emails to the appointment originator. If you select *Do Not Send Appointment Notifications*, the *Lotus Notes Appointment Interface* will not send any notification emails to the appointment originator. Otherwise, the RMS application can deliver this appointment notification message via either Notes or SMTP. Notifications routed via Notes are delivered to the originator directly on the Notes server by the *Lotus Notes Appointment Interface* scheduling plug-in. Notifications routed via SMTP are not delivered via the *Lotus Notes Appointment Interface* scheduling plug-in, but rather through the standard RMS application email and notification system.

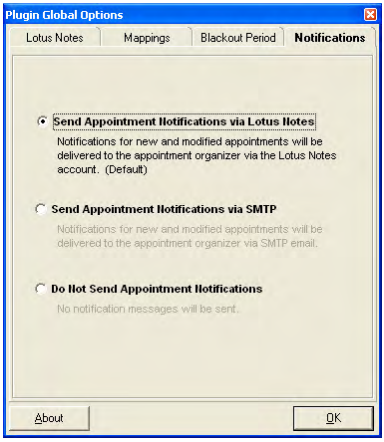

Plugin Global Options
Lotus Notes
Mappings
Blackout Period
Notifications
Send Appointment Notifications via Lotus Notes
Notifications for new and modified appointments will be delivered to the appointment organizer via the Lotus Notes account. (Default)
Send Appointment Notifications via SMTP
Notifications for new and modified appointments will be delivered to the appointment organizer via SMTP email.
Do Not Send Appointment Notifications
No notification messages will be sent.
About
OK

FIG. 175 Notifications Tab

After you set all the appropriate plug-in settings, click **OK** to complete the plug-in configuration. You can return to this configuration at any time using the Configuration Wizard, selecting this plug-in in the list and clicking the **Configure** button.

Room Scheduling Configuration

For a given room to access a calendar in Notes, the room must first be configured with the appropriate access information. In the web administrative interface, when you add a new room or modify an existing room, you will be provided with *Lotus Notes Scheduling Configuration* section.

If you wish this RMS room to synchronize with appointment records with that of rooms or resources from the default Lotus Notes resource reservations database as configured in the RMS Lotus Notes Plug-in, then choose the first option Resource and select the resource name in the drop down list named: *Scheduling Resource*

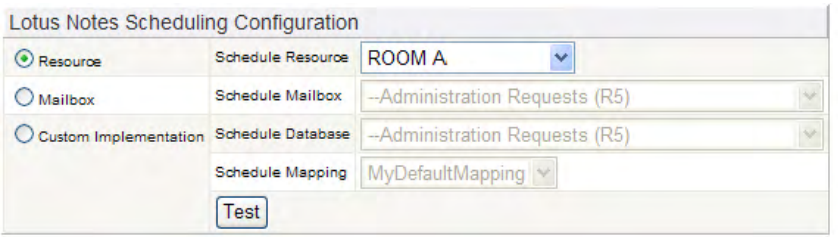


FIG. 176 Resource

If you wish this RMS room to synchronize with appointment records from a specific user mailbox, then choose the second option Mailbox and select the mailbox name in the drop down list named: *Scheduling Mailbox.*

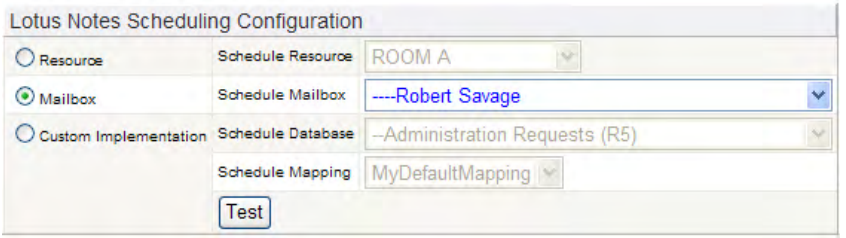


FIG. 177 Mailbox

If you wish this RMS room to synchronize with appointment records from a custom mapping, then choose the third option Custom Implementation and then select the specific scheduling database which to obtain the records and the specific mapping that knows how to query the database and what fields to synchronize against.

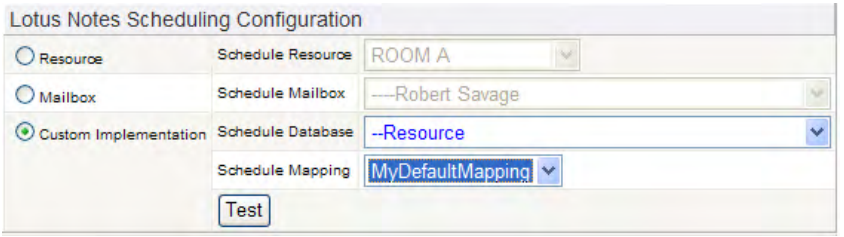


FIG. 178 Custom Implementation

After completing the room configuration fields, it is recommended to test the configuration using the **Test** button in the room scheduling plug-in configuration section.

If the RMS application successfully accesses the provided resource, mailbox, or database view on the provided Notes server, you will be prompted with a success message.

Success: Connected Successfully to Notes.

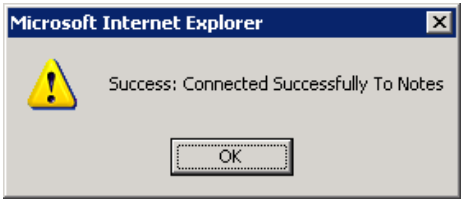


FIG. 179 Test Success

If a connection to the Notes server was not successfully, a message will be displayed indicating failed access. You may see the following messages:

Failed: Could Not Access resource: Cannot access Resource.

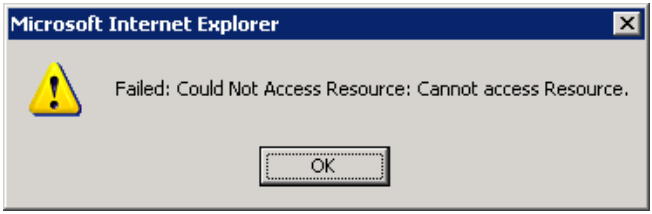


FIG. 180 Test Failure Resource

Failed: Could Not Access Database: Cannot access Database.

These errors can be caused because the Notes account for the RMS application does not have access to the selected database. To configure access to the database, you can view the *Appendix E: Configuring Lotus Notes Database & Permissions* section on page 345.

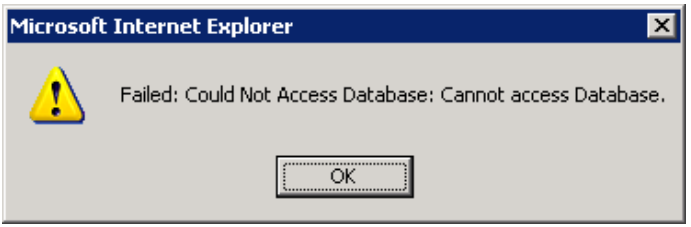


FIG. 181 Test Failure Database

Once you have completed the room scheduling plug-in configuration and tested the mailbox successfully, make sure to click the **Save** button in the room scheduling plug-in configuration window to store your settings.

Database Wizard

Overview

The AMX RMS application suite includes a utility program called *RMS Database Wizard*. The *RMS Database Wizard* tool performs the following:

- Tests the RMS application database connection.
- Modifies the RMS application database connection settings.
- Creates new RMS application databases.
- Removes RMS application databases.
- Imports data to an RMS application database.
- Exports data from an RMS application database.
- Backs up an RMS application database.
- Converts the RMS application database to another database platform.
- Applies updates to the RMS application database.

During installation, the RMS Database Wizard will be used to create the RMS database on one of the following supported database platforms:

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005 Standard Edition
- Microsoft SQL Server 2005 Enterprise Edition
- Microsoft SQL Server 2005 Express Edition

Starting the Database Wizard

To access and perform the Database Wizard tasks, the RMS application services must first be stopped. If one of more of the RMS services are running when the Database Wizard starts, it will prompt you to stop the services before continuing.

1. Click the **Stop Services** button and wait for all the services to stop.
2. Click **Next** to continue.

FIG. 182 Stop Services

First, the *RMS Database Wizard* checks the existing RMS application database connection. If a connection error is detected, you are prompted to re-configure the database connection settings. (see *Configuring Connection Settings* section on page 323).

Otherwise, click **Next** to continue to the main menu.

FIG. 183 Database Connection

Main Menu

The Database Wizard main menu allows you to select the desired database operation to perform.

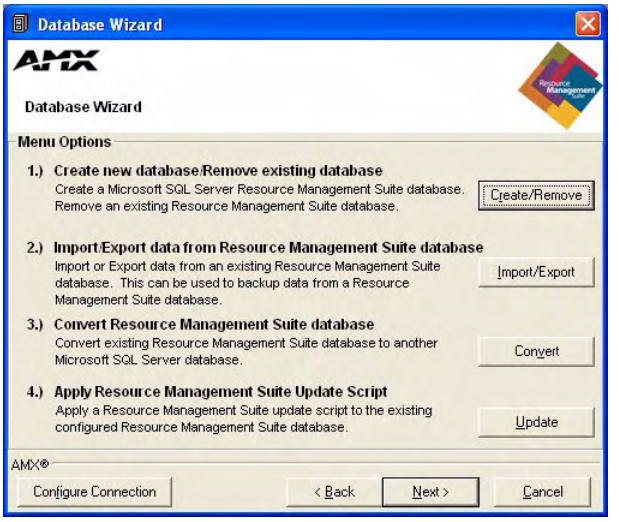

Database Wizard
Database Wizard
Menu Options
1.) Create new database/Remove existing database
Create a Microsoft SQL Server Resource Management Suite database. Remove an existing Resource Management Suite database.
Create/Remove
2.) Import/Export data from Resource Management Suite database
Import or Export data from an existing Resource Management Suite database. This can be used to backup data from a Resource Management Suite database.
Import/Export
3.) Convert Resource Management Suite database
Convert existing Resource Management Suite database to another Microsoft SQL Server database.
Convert
4.) Apply Resource Management Suite Update Script
Apply a Resource Management Suite update script to the existing configured Resource Management Suite database.
Update
AMX®
Configure Connection
< Back
Next >
Cancel

FIG. 184 Menu Options

1. *Create new database / Remove existing database*

Select this option to create a new RMS application database or to remove an existing RMS application database.

2. *Import / Export data from MeetingManager database*

Select this option to import data into or to export data from the configured RMS application database. You can use the export option to backup the data in your RMS application database.

The export function of the Database Wizard should not be used as a replacement for standard network and systems backup procedures typically performed by an IT department, but rather in addition to standard backup procedures. The export function creates a snapshot of the data contents in the RMS database, but does not backup the database file nor the database server.

3. *Convert RMS Database*

Select this option to convert the currently configured database to an alternate database platform.This option automates the process of creating a new database on the Microsoft SQL Server, migrating the data from the existing database to the new database, and re-configuring the RMS application's connection settings to use this new database.

4. *Apply RMS Update Script.*

Select this option if you have a database update script that you need to apply to your database. Database update scripts are created by AMX to provide a means of updating the existing database in place.

Configure Connection

Select this button to re-configure the RMS application database connection settings.

Create / Remove Menu

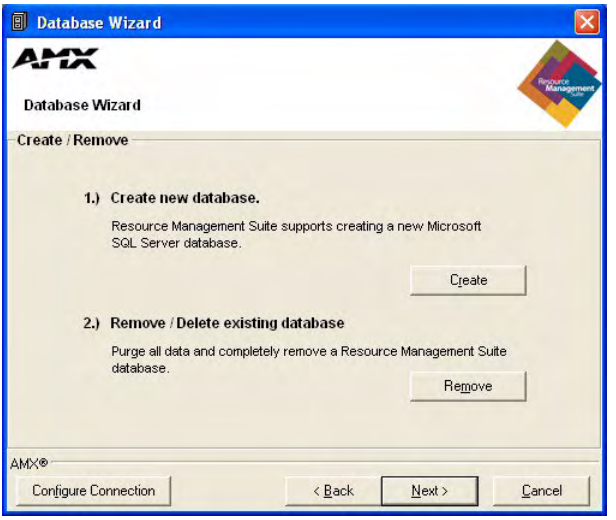


FIG. 185 Create / Remove

1. *Create new database.*

Select this option to create a new RMS application.

2. *Remove / Delete existing database.*

Select this option to delete an RMS application database file or remove an RMS application database from a database server.

Import / Export Menu

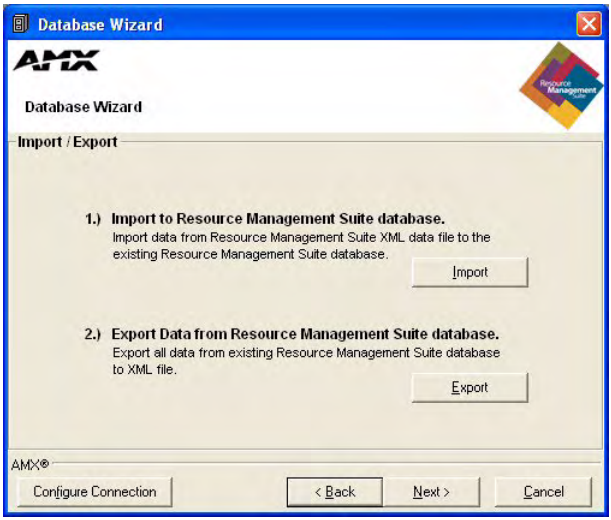

Database Wizard
Database Wizard
Import / Export
1.) Import to Resource Management Suite database.
Import data from Resource Management Suite XML data file to the existing Resource Management Suite database.
Import
2.) Export Data from Resource Management Suite database.
Export all data from existing Resource Management Suite database to XML file.
Export
AMX®
Configure Connection
< Back
Next >
Cancel

FIG. 186 Import / Export

1. *Import to RMS database.*

Select this option to import data into the configured RMS application database.

2. *Export Data from RMS database.*

Select this option to export data from the configured RMS application database. You can use the export option to backup the data in your RMS application database.

NOTE

The export function of the Database Wizard should not be used as replacement for standard network and systems backup procedures typically performed by an IT department, but rather in addition to standard backup procedures. The export function creates a snapshot of the data contents of the RMS database, but does not backup the database file nor the database server.

Create A New Database

The *RMS Database Wizard* can create a new RMS application database for the following database platforms:

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005

You need to provide the following information:

- Microsoft SQL Server Address
- Use Windows Authentication

  or

- Use SQL Server Authentication
  - Microsoft SQL Server Username
  - Microsoft SQL Server Password
- RMS application Database Name

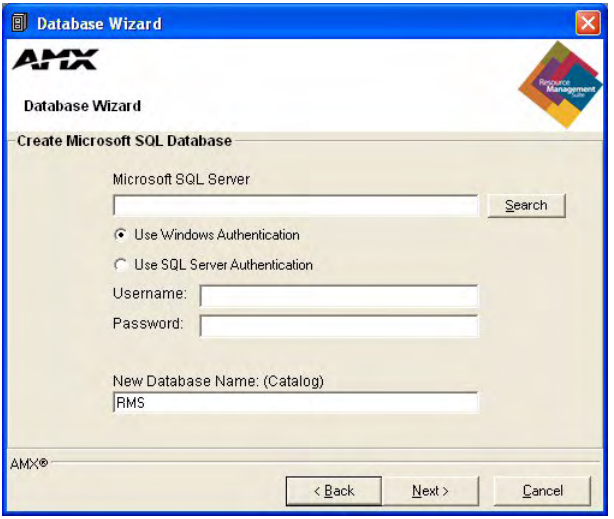


FIG. 187 Create Microsoft SQL Database

Click **Next** to begin creating the new database.

The *RMS Database Wizard* creates the database structure of tables, then imports all of the default data into the new database. When the processes have completed, the *RMS Database Wizard* automatically reconfigures the RMS application connection settings to point to this new database.

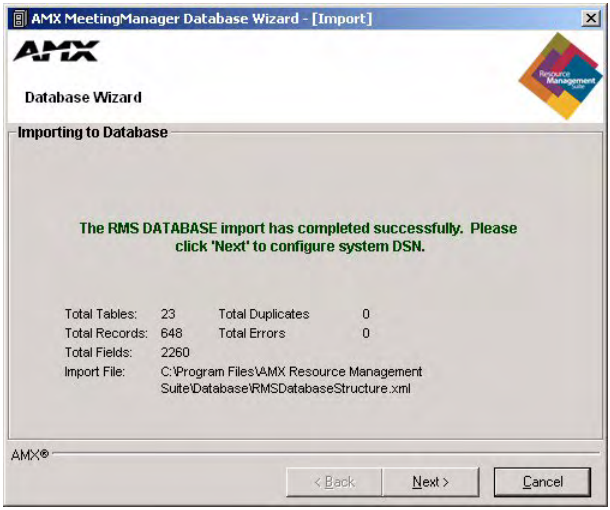


FIG. 188 Importing Database Completed

Click **Next** to continue.

The *RMS Database Wizard* performs a database connection test and then returns to the main menu.

Remove A Database

The Database Wizard can remove an existing RMS application database for the following database platforms:

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005

You need to provide the following information:

- Microsoft SQL Server Address
- Use Windows Authentication

  or

- Use SQL Server Authentication
  - Microsoft SQL Server Username
  - Microsoft SQL Server Password

FIG. 189 Remove Microsoft SQL Database

1. Select the desired RMS application database to remove.
2. Click **Next** to continue.

The *RMS Database Wizard* can only remove RMS application databases. If you attempt to remove another database, an error is returned and no action taken.

FIG. 190 Select Database to Remove

As a final confirmation to remove the database, you are prompted to enter the word **destroy** to confirm that you are certain about removing the database. Once a database has been removed, it cannot be recovered.

Enter **destroy** and click **OK** to continue.

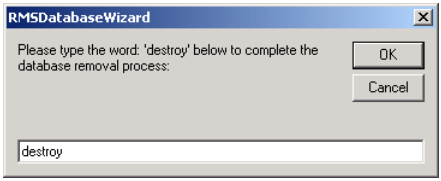


FIG. 191 Complete Database Removal Process

After the database has been removed, the *Database Wizard* performs a database connection test and then returns to the main menu.

Importing Data

The *RMS Database Wizard* can import data files that were exported using this tool. This data file is an XML formatted collection of all the records in the database. This process is useful if you have created a new database and want to import data from an existing alternate database.

After selecting *Import* from the *Import / Export* menu, you are prompted to select the import file. After selecting the import file, click **Next** to begin the import process.

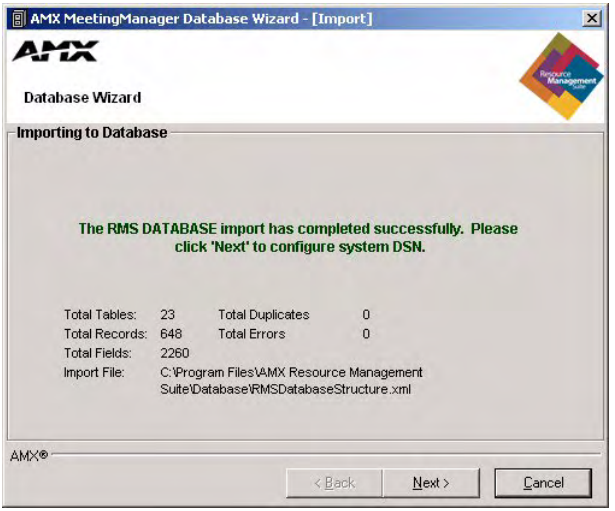


FIG. 192 Importing Database Complete

After the import file has been processed, the Database Wizard will return to the main menu.

Exporting Data

The *RMS Database Wizard* can export all records in a database to a data file. This data file is an XML formatted collection of all the records in the database. This process is useful if you want to migrate to another database platform and want to export all records from your existing database. It can also be used to store backups of the data in your database.

After selecting *Export* from the *Import / Export* menu, you are prompted to select the export file. After selecting the export file, click **Next** to begin the export process.

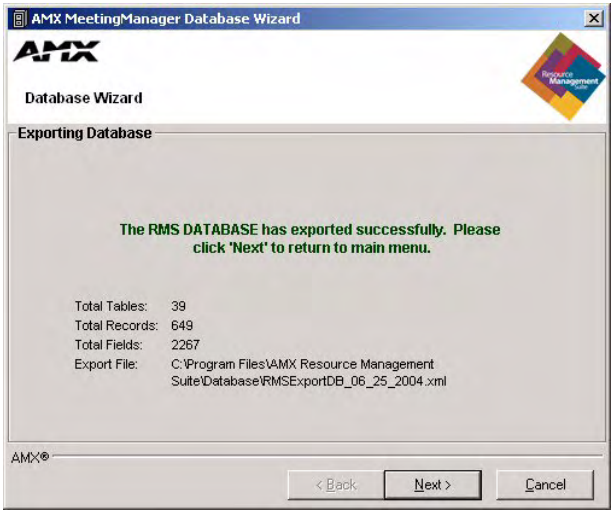


FIG. 193 Exporting Database Complete

After the export file has been completed, the *Database Wizard* returns to the main menu.

Converting A Database

The Database Wizard can fully automate the steps required to migrate from an existing database to an alternate database platform. The *RMS Database Wizard* can migrate between any of the following database platforms.

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005

The steps required to migrate are as follows:

Read the corresponding sections for more information about each specific step.

1. *Export all data from existing RMS database.*
2. *Create new RMS database.*
3. *Import RMS data into new database.*
4. *Configure RMS access to new database.*

Click **Next** to continue.

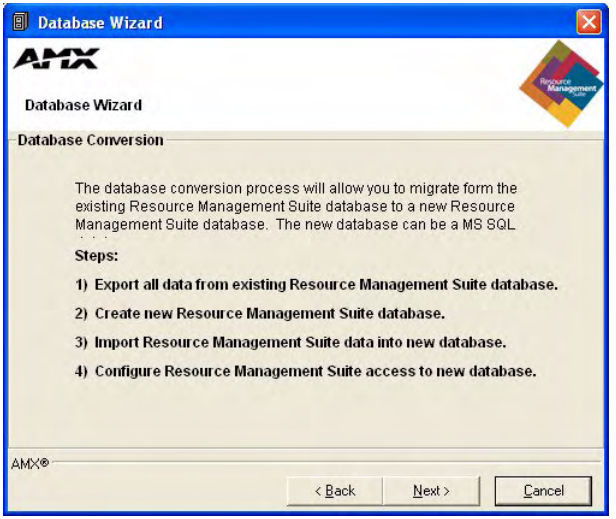

Database Wizard
AMX
Database Wizard
Database Conversion
The database conversion process will allow you to migrate form the existing Resource Management Suite database to a new Resource Management Suite database. The new database can be a MS SQL
Steps:
1) Export all data from existing Resource Management Suite database.
2) Create new Resource Management Suite database.
3) Import Resource Management Suite data into new database.
4) Configure Resource Management Suite access to new database.
AMX®
< Back
Next >
Cancel

FIG. 194 Database Conversion

After the migration process has completed, the *RMS Database Wizard* performs a database connection test and then returns to the main menu.

Applying Update Scripts

The *RMS Database Wizard* can perform database maintenance and updates of the configured RMS application database using Update Scripts. Database update scripts are created by AMX to provide a means of updating the existing database in place.

1. Select the desired update script.
2. Click **Next** to continue.

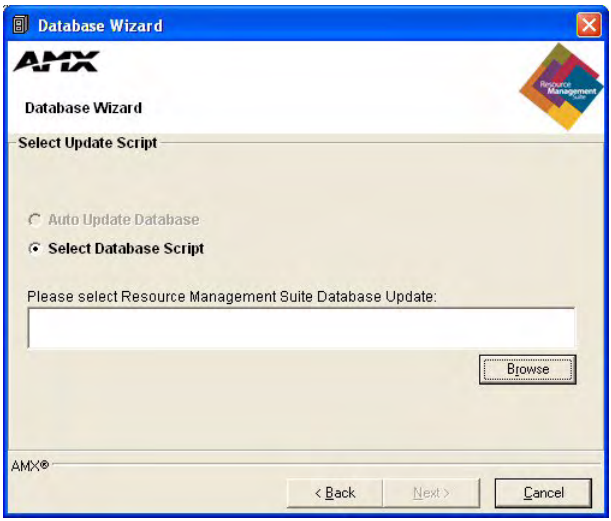


FIG. 195 Select Update Script

If the *Configuration Wizard* detects that the database must be upgraded, it automatically launches the *Database Wizard Update Script* dialog.

The *RMS Database Wizard* tests to ensure that the update script can be applied to the existing configured database. It also ensures that the update script has not already been applied to the database. If these tests are passed, you are prompted with the *Ready To Update* message. If the update script does not pass these tests, an error message is displayed and you are not able to apply the update script.

Click **Next** to continue.

After the database script has been applied successfully, click **Next** to continue.

The *RMS Database Wizard* performs a database connection test and then returns to the main menu.

Configuring Connection Settings

You can use the Database Wizard at anytime to configure the RMS application database connection settings. The RMS application uses a DSN-less connection, and thus stores all the database connection settings internally.

Database Server:

Enter the database server IP address or hostname.

Use Windows Authentication

Enable Windows Authentication or,

Use SQL Server Authentication

- **Username**:

  Enter the database username (*if needed*).

- **Password**:

  Enter the database password (*if needed*).

Database Name:

Enter the database file name.

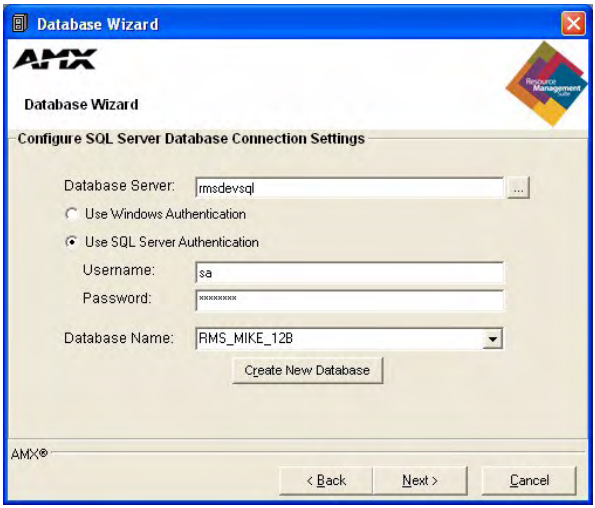


FIG. 196 Database Connection Settings

After configuring the RMS application database connection settings, the *RMS Database Wizard* performs a database connection test and then returns to the main menu.

Appendix A: Service Configuration for Microsoft Exchange 5.5

Overview

This information is intended to assist you in configuring the RMS application to work with a Microsoft Exchange 5.5 server. The Network Administrator should perform this type of configuration.

Microsoft has documented two problems with MAPI and Exchange. Both of these problems require patches from Microsoft to be installed on the Exchange server. Without these patches, the RMS Scheduling Manager services may stop responding.

- For Exchange 5.5, see this article: http://support.microsoft.com/default.aspx?scid=kb%3ben-us%3b293150
- For Exchange 2000, see this article: http://support.microsoft.com/default.aspx?scid=kb%3ben-us%3b326389

Configuration

The RMS application does not provide the native support to configure the RMS Scheduling Manager service to work with Microsoft Exchange 5.5 mailboxes. The RMS Scheduling Manager service must be configured to logon as the actual domain user account, not a local computer user account. Since the RMS application configuration Wizard only lists local user accounts, you must use the Windows Services console. During the service registration step of the Configuration Wizard you will be prompted to configure the logon account for the RMS Scheduling Manager service; you can configure it here to use the local system account. You must change this user account manually after the services have been registered. Finish all the steps in the Configuration Wizard, then perform the additional steps below on the RMS application server

3. Begin by starting the **Services** console utility located in the *Control Panel\Administrative Tools* folder.

4. Find the **AMX RMS Scheduling Manager** service in the services list.
5. Right-click on the **AMX RMS Scheduling Manager** service and select **Properties**.

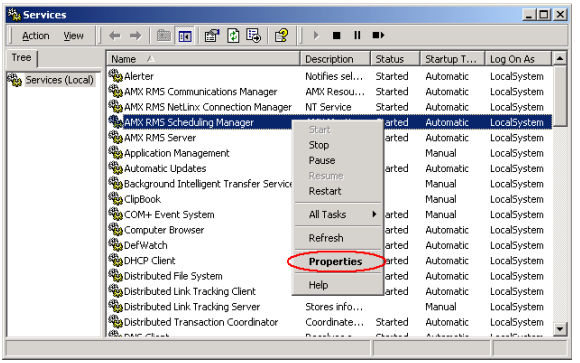


FIG. 197 Services - Properties

6. Select the *Log On* tab.

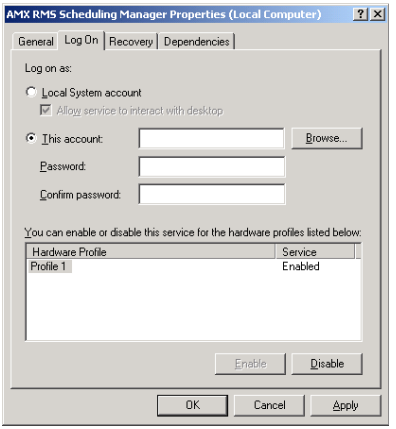


FIG. 198 AMX RMS Scheduling Manager Properties

7. Click the **Browse** button.
8. In the *Look In* field, select your domain.

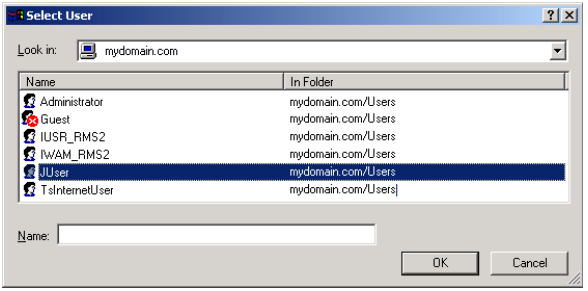


FIG. 199 Select User

9. Select the user account the RMS application should logon with and click **OK**.

10. Enter the user account's password.

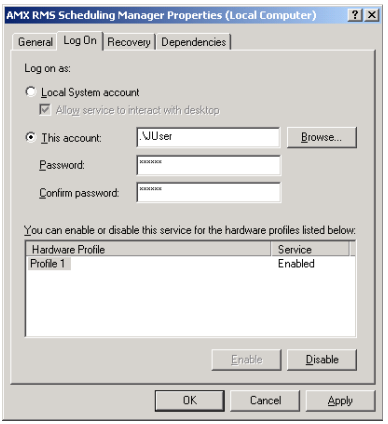


FIG. 200 Account Password

11. Click **OK**.

12. You are prompted with the following message, *The new logon name will not take effect until you stop and restart the service.* Click **OK**.

13. Right-click the **AMX RMS Scheduling Manager** service and select **Restart**.

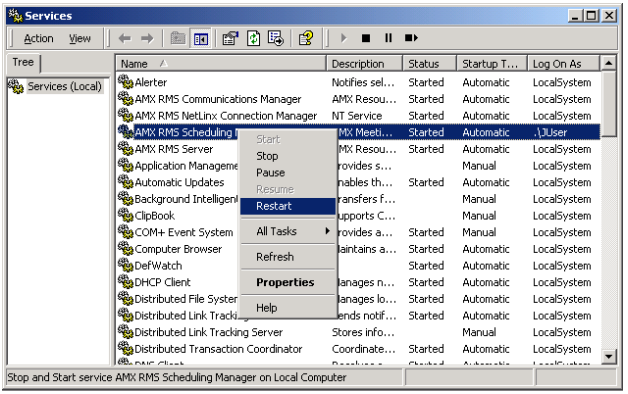


FIG. 201 Services - Restart

14. After the service restarts, you need to re-run the Configuration Wizard to ensure the proper OS / NTFS permissions are configured for this user account.

Appendix B: Configuring Microsoft Exchange Mailbox & Permissions

Overview

This information is intended to assist you in creating Exchange mailboxes and configuring Exchange mailboxes for use with the RMS application. The Network Administrator should perform this type of configuration.

Create a New Exchange Mailbox

Microsoft Exchange creates mailboxes based on user accounts in the active directory or domain. To create a new mailbox in Exchange, create a new user in the active directory/domain. To create a new user account, you must logon to the domain controller (or remote computer with domain administration utilities). You must logon to the domain controller as an existing user with domain administrator privileges.

1. Begin by starting the **Active Directory Users and Computers** utility located in the **Control Panel\Administrative Tools** folder.

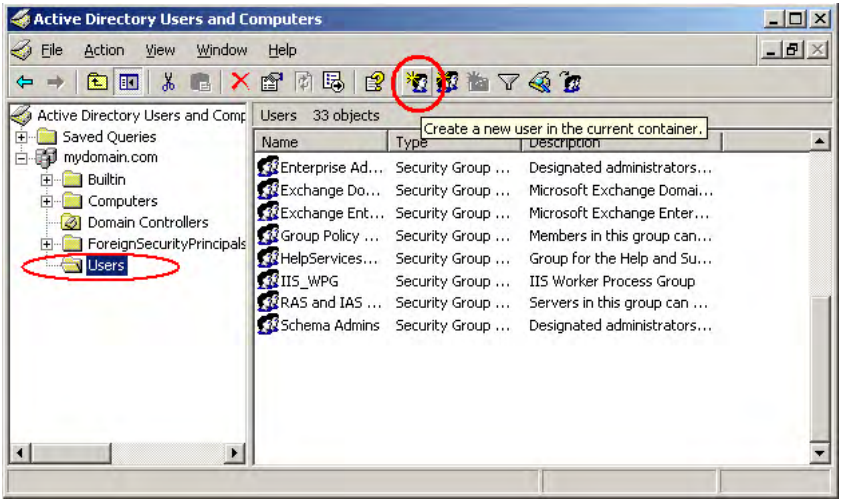

Active Directory Users and Computers
File Action View Window Help
Active Directory Users and Comp
Saved Queries
mydomain.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
Users
Users 33 objects
Create a new user in the current container.
Name Type Description
Enterprise Ad... Security Group ... Designated administrators...
Exchange Do... Security Group ... Microsoft Exchange Domai...
Exchange Ent... Security Group ... Microsoft Exchange Enter...
Group Policy ... Security Group ... Members in this group can...
HelpServices... Security Group ... Group for the Help and Su...
IIS_WPG Security Group ... IIS Worker Process Group
RAS and IAS ... Security Group ... Servers in this group can ...
Schema Admins Security Group ... Designated administrators...

FIG. 202 Active Directory Users and Computers

2. Select and expand the desired domain container.
3. Select the *Users* container.
4. Click the **Create New User** button on the toolbar.
5. Enter the appropriate username and logon account name.

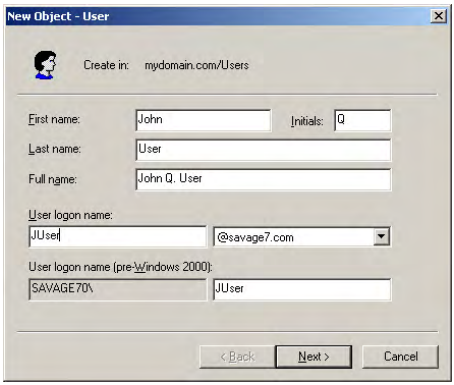


FIG. 203 New Object - User Account Name

6. Enter the appropriate account password.

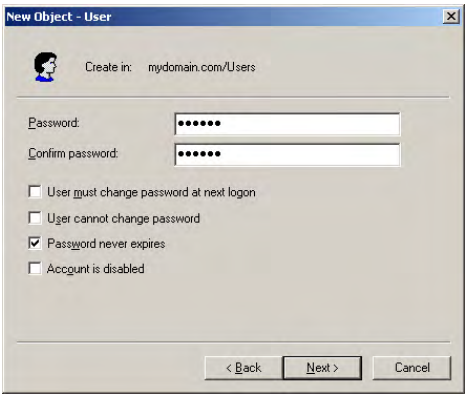


FIG. 204 New Object - User Password

7. Enter the appropriate account mailbox name, exchange server, and mailbox store.

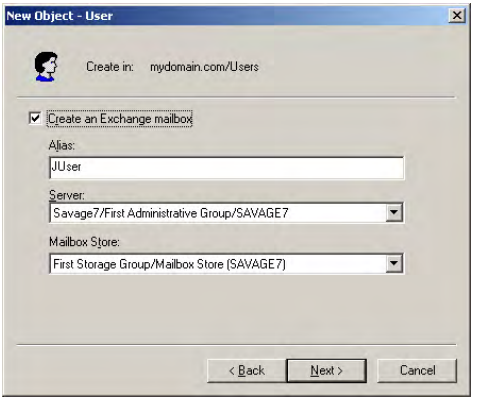


FIG. 205 New Object - Mailbox Name, Exchange Server and Mailbox Store

8. The new user account and mailbox have been successfully created. Click **Finish**.

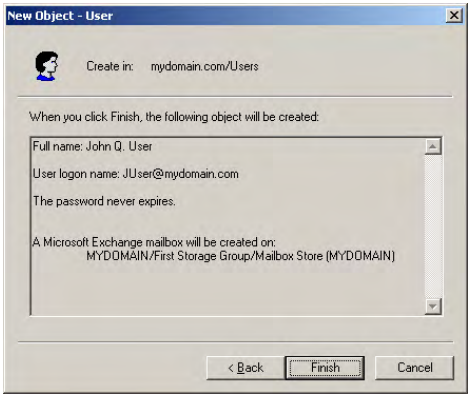

New Object - User
Create in: mydomain.com/Users
When you click Finish, the following object will be created:
Full name: John Q. User
User logon name: JUser@mydomain.com
The password never expires.
A Microsoft Exchange mailbox will be created on:
MYDOMAIN/First Storage Group/Mailbox Store (MYDOMAIN)
< Back
Finish
Cancel

FIG. 206 New User Created

9. Continue to *Configure Exchange Mailbox Permissions*.

Configure Exchange Mailbox Permissions

This help topic will assist in configuring user account access to another Exchange mailbox. Microsoft Exchange mailbox permissions are managed in the active directory. To manage Exchange mailbox permissions, you must logon to the domain controller (or remote computer with domain administration utilities). You must logon to the domain controller as an existing user with domain administrator privileges.

1. Begin by starting the **Active Directory Users and Computers** utility located in the **Control Panel/Administrative Tools** folder.

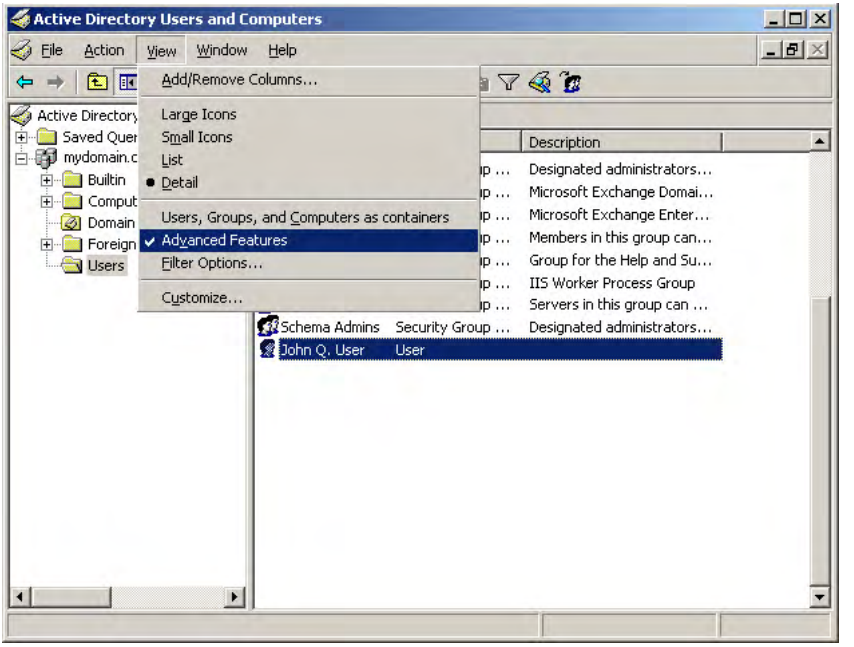


FIG. 207 Active Directory Users and Computers

2. Select **View > Advanced Features**.
3. Select and expand the desired domain container.
4. Select the *Users* container.
5. Select the user account whose mailbox you wish to configure permissions.
6. Right-click the user account and select **Properties**.

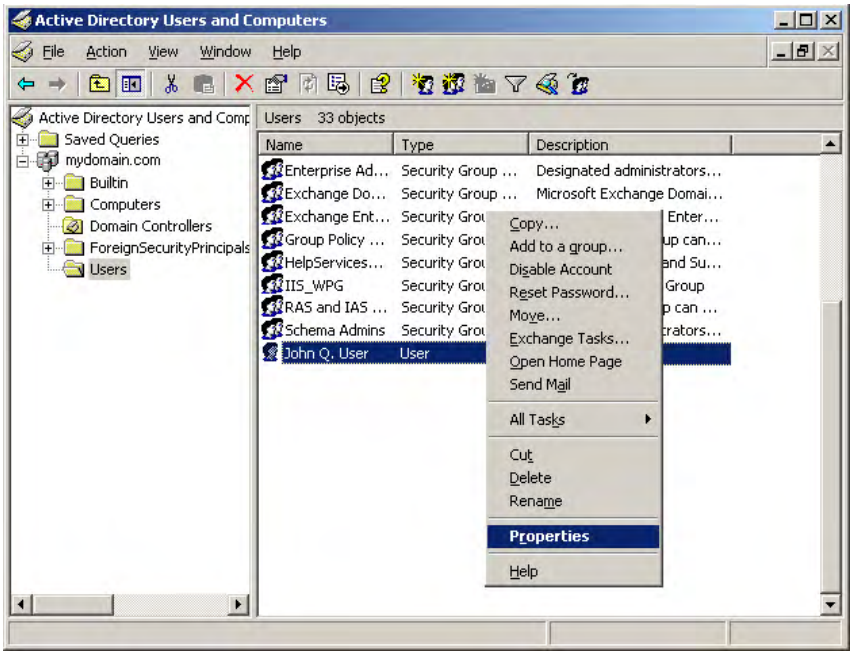


FIG. 208 Active Directory Users and Computers - Properties

7. Select the *Exchange Advanced* tab.

8. Click Mailbox Rights.

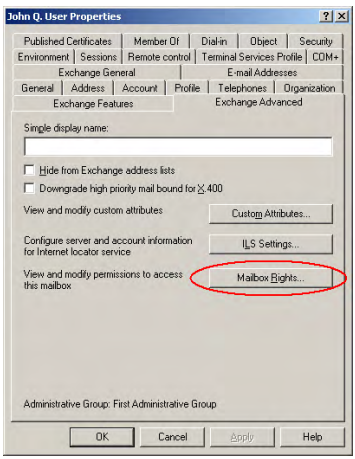

John Q. User Properties
Published Certificates Member Of Dial-in Object Security
Environment Sessions Remote control Terminal Services Profile COM+
Exchange General E-mail Addresses
General Address Account Profile Telephones Organization
Exchange Features Exchange Advanced
Simple display name:
Hide from Exchange address lists
Downgrade high priority mail bound for X.400
View and modify custom attributes
Custom Attributes...
Configure server and account information for Internet locator service
ILS Settings...
View and modify permissions to access this mailbox
Mailbox Rights...
Administrative Group: First Administrative Group
OK Cancel Apply Help

FIG. 209 Exchange Advanced - Mailbox Rights

9. Add the user to whom you want to grant access to this mailbox.
10. Select the newly added user.
11. At a minimum, enable *Read permissions* and *Full mailbox access* for the selected user.

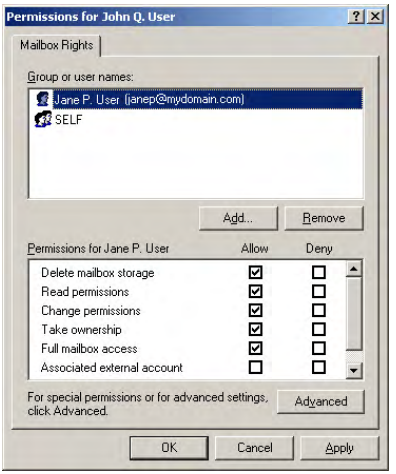


FIG. 210 User Permissions

The example above grants user "Jane P User" full access to "John Q. User" mailbox. The RMS Scheduling Manager service should be configured to logon using the "Jane P User" user account. A room in the RMS application could be configured to access the "Jane P User" mailbox or the "John Q. User" mailbox, since the "Jane P User" now possesses access permissions to both.

Appendix C: Configuring Novell GroupWise Mailbox Proxy Access

Overview

This information is intended to assist you in configuring proxy access to Novell GroupWise mailboxes. The Network Administrator should perform this type of configuration.

Configure GroupWise Mailbox Proxy Access

The RMS application uses a single GroupWise mailbox/account to logon to the GroupWise server. The RMS application rooms can be configured to access separate GroupWise mailboxes via proxy access. Each room's mailbox/account needs to grant proxy access to the primary logon mailbox/account. Proxy access can be granted to each room mailbox/account using the GroupWise administration utility or by using the GroupWise client.

1. Begin by starting the GroupWise client.
2. Logon as a Room mailbox/account.
3. Select **Tools > Options**.

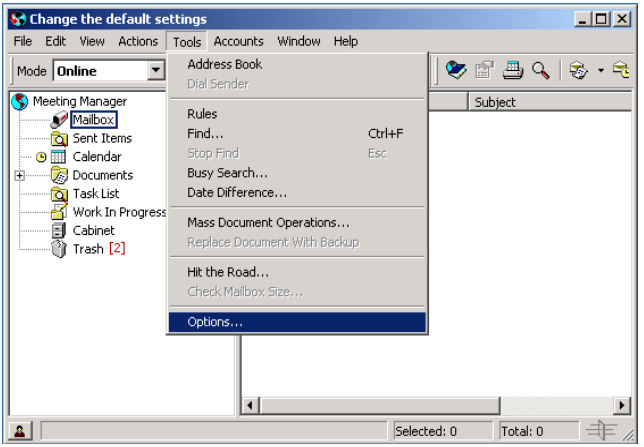


FIG. 211 GroupWise Account

4. Double-click the *Security* menu option.

FIG. 212 Security Options

5. Enter the primary logon mailbox/account to grant access to this mailbox.

6. Select the newly added mailbox/account.

7. At a minimum, grant *write access* to Mail/Phone and *read access* to Appointments.

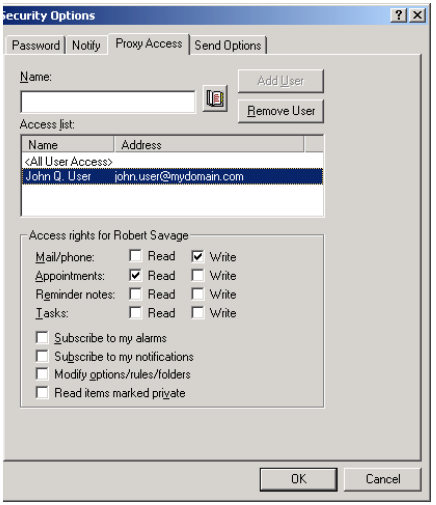


FIG. 213 Mailbox/Account Access

8. Click **OK** to complete.

The example above grants primary mailbox/account "RMS" access to "John Q. User" mailbox. A room in RMS could be configured to access the "RMS" mailbox or the "John Q. User" mailbox, since "RMS" now possesses access permissions to both.

Appendix D: Configuring A Local Mail Profile

Overview

This information is intended to assist you in creating local mail profiles for use with the RMS application.

Create a Local Mail Profile

The Outlook MAPI Appointment Interface can access calendars in local MAPI mail profiles to synchronize appointments with the RMS application. Local MAPI mail profiles are stored on a per user basis, thus you must configure the local mail profiles while logged on as the same user account RMS Scheduling Manager service is configured to logon as. To create local mail profiles, the MAPI subsystem must be installed on the RMS application server. Installing Microsoft Outlook will ensure that the MAPI subsystem is installed.

1. Begin by logging on to the RMS application server as the same user the RMS Scheduling Manager service is configured to use for its logon.
2. Click the Windows *Start* Menu.
3. Click *Settings*.
4. Click *Control Panel*.
5. Double-click the *Mail* icon in the Control Panel.

FIG. 214 Control Panel - Mail

6. Click the **Show Profiles** button.

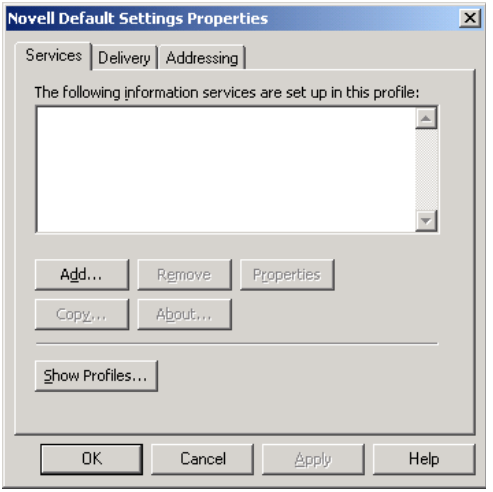


FIG. 215 Mail Profile

7. Click **Add**.

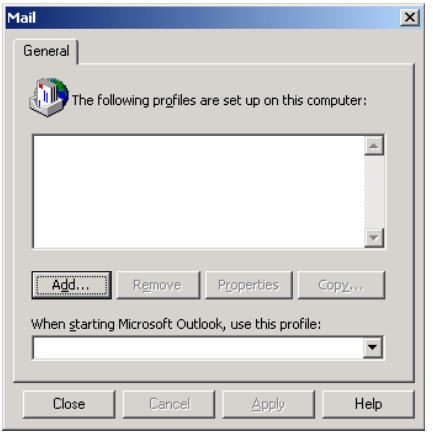


FIG. 216 Show Profile

8. Enter a profile name.

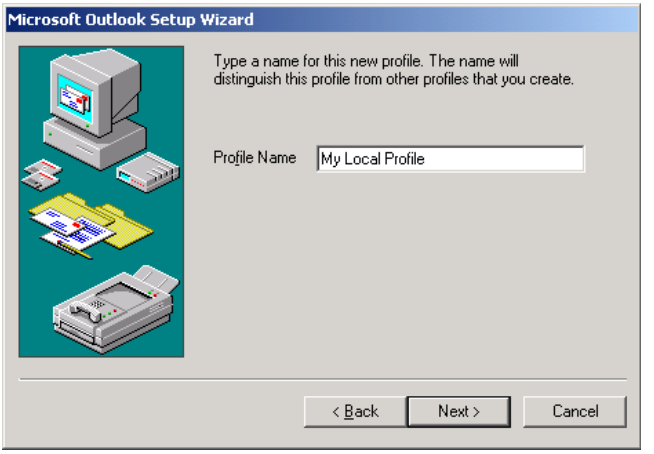

Microsoft Outlook Setup Wizard
Type a name for this new profile. The name will distinguish this profile from other profiles that you create.
Profile Name
My Local Profile
< Back
Next >
Cancel

FIG. 217 Enter Profile Name

9. Select the desired mail provider service and complete the profile setup wizard.

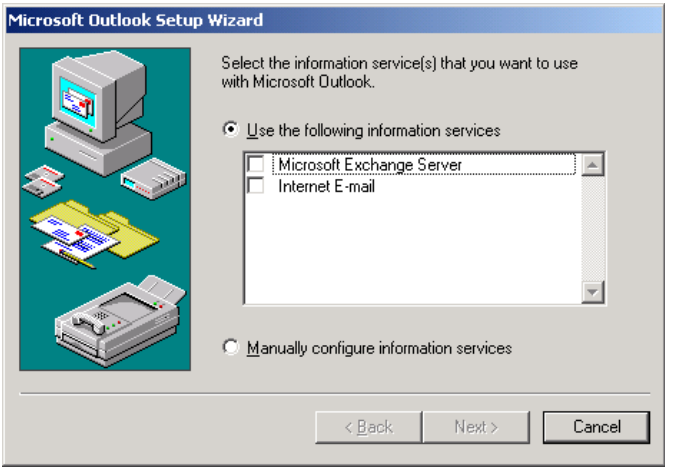

Microsoft Outlook Setup Wizard
Select the information service(s) that you want to use with Microsoft Outlook.
Use the following information services
Microsoft Exchange Server
Internet E-mail
Manually configure information services
< Back
Next >
Cancel

FIG. 218 Profile - Mail Provider

10. After completing the profile wizard, access the new profile using both Microsoft Outlook and the RMS application.

Appendix E: Configuring Lotus Notes Database & Permissions

Overview

This information is intended to assist you in configuring Access Control for Notes databases and configuring Notes mailboxes for use with the RMS application. The Network Administrator should perform this type of configuration.

Create a New Notes Mailbox

Lotus Notes administrators create mailboxes using the Lotus Domino Administrator Tool supplied with Lotus Notes. To create a new mailbox in Notes, you must login to a Notes server using Lotus Domino Administrator. You must logon to the Notes server as an existing user with administrator privileges.

1. Begin by starting the Lotus Domino Administrator application located in the **Start->Program Files->Lotus Applications** folder.
2. Open the desired Notes server and click on the Administration Tab.
3. Select the People & Groups tab.
4. Click the Register link under People on the toolbar on the right side of the screen.
5. Enter the appropriate username, logon account name, and password. Click, **Add Person, Register**, and **Done**.
6. Continue to the Configure Exchange Mailbox Permissions help topic.

Configure Notes Database Permissions

This help topic will assist in configuring user account access to another Notes database. Notes database permissions are managed using Access Control. To manage Notes database permissions, you must login to a Notes server using Lotus Domino Administrator. You must logon to the Notes server as an existing user with administrator privileges.

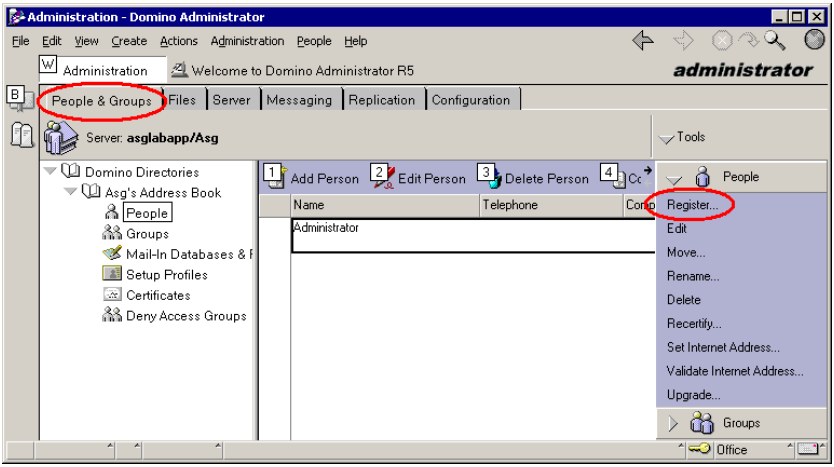


FIG. 219 Domino Admin

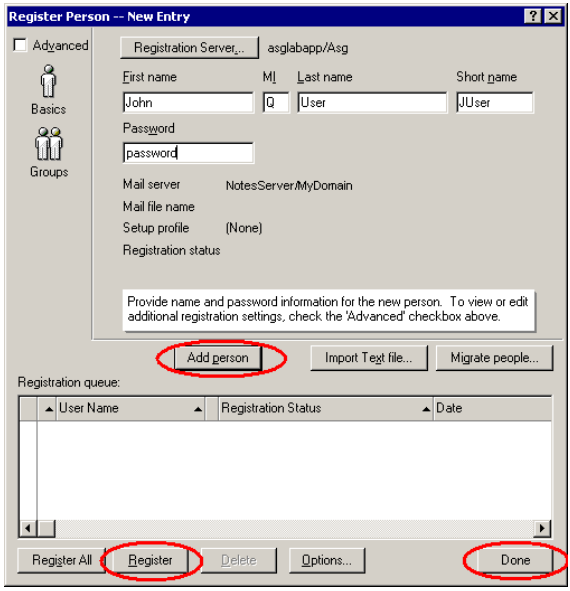


FIG. 220 Register User

1. Begin by starting the Lotus Domino Administrator application located in the **Start->Program Files->Lotus Applications** folder.
2. Open the desired Notes server and click on the *Administration* Tab.

3. Select the *Files* tab.

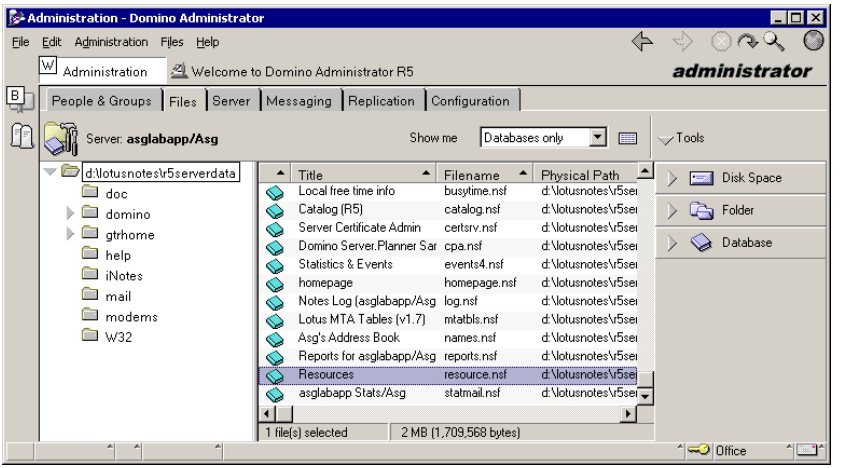


FIG. 221 Files Tab

4. Select the database you wish to configure permissions on.

5. Right-click the database and select **Access Control->Manage.**

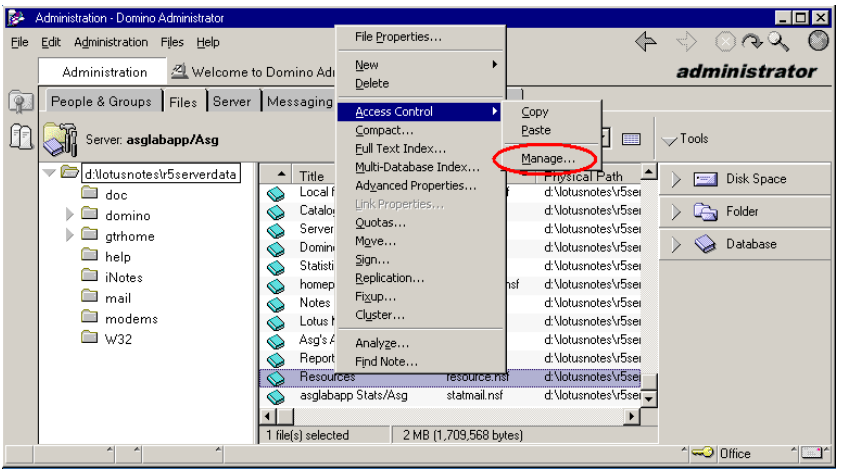


FIG. 222 Access Control

6. Select the *Basics* tab.

7. Click **Add**.

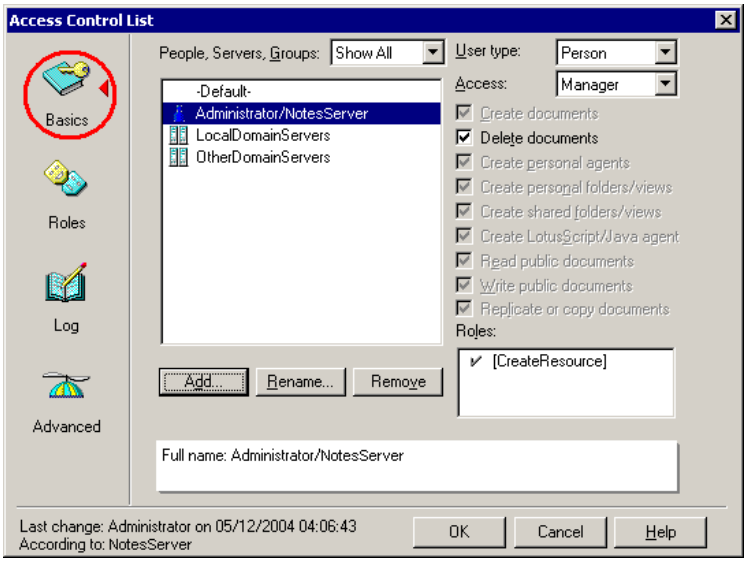


FIG. 223 Access Control List

8. Enter a user name or click the *Address book* icon to see a list of addresses.

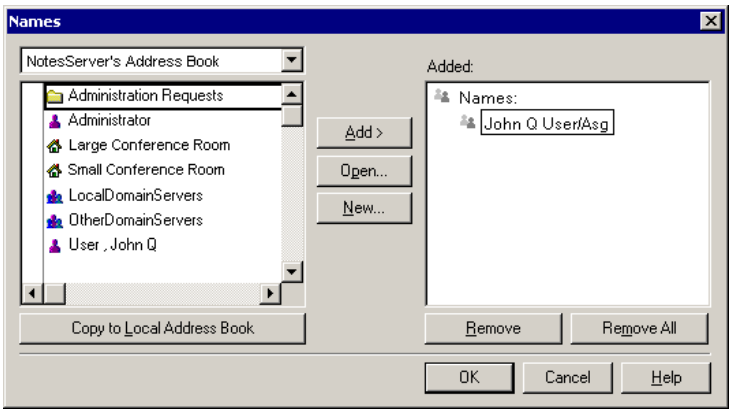


FIG. 224 Add User

9. Select the newly added user and click **OK**.

10. At a minimum, enable *Read Public Documents* for the selected user.

11. Click **OK**.

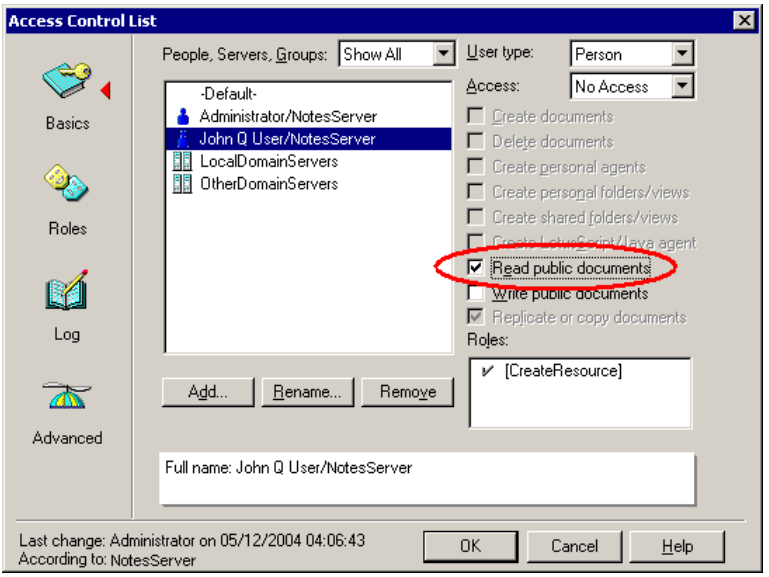


FIG. 225 Access Settings

The example above grants user "John Q User" read access to Resource Reservations database. The Lotus Notes client installed on the RMS application server should be configured to logon using the "John Q User" user account. A room in the RMS application could be configured to access the "John Q User" mailbox or a resource from the Resource Reservations database since the "John Q User" account now possesses access permissions to both.

Appendix F: Installation Procedure for SQL Server 2005 Express Edition

Overview

This information is intended to assist you in installing and configuring SQL Server 2005 Express Edition for use with the RMS application. The Network Administrator should perform this type of configuration.

Resource Management Suite™ does support Microsoft SQL Express 2005 databases; however, the RMS services and website must connect using a TCP/IP connection or named pipes. Connecting to SQL Express 2005 via shared memory is not supported.

Installation

1. Download the *SQL Server 2005 Express Edition* (SP1 min.) from Microsoft.
2. Run the SQLEXPR.EXE.
3. Follow the default installation except as follows:
   In the *Feature Selection* window, select *Client Components* > *Connectivity Components* > *Entire feature...*

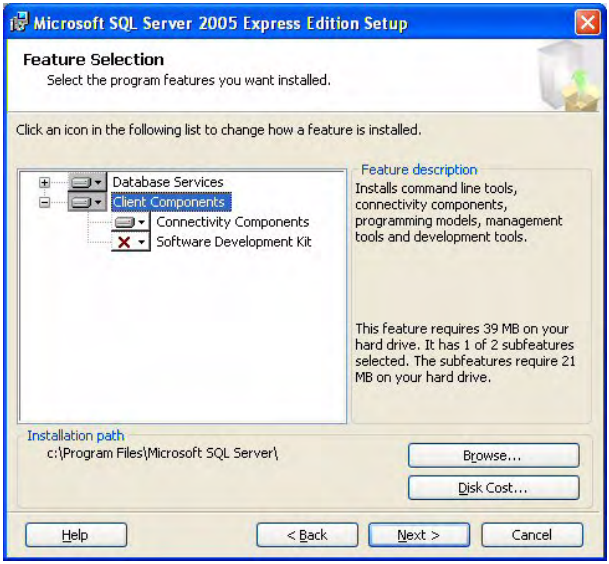

Microsoft SQL Server 2005 Express Edition Setup
Feature Selection
Select the program features you want installed.
Click an icon in the following list to change how a feature is installed.
Database Services
Client Components
Connectivity Components
Software Development Kit
Feature description
Installs command line tools, connectivity components, programming models, management tools and development tools.
This feature requires 39 MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 21 MB on your hard drive.
Installation path
c:\Program Files\Microsoft SQL Server\
Browse...
Disk Cost...
Help
< Back
Next >
Cancel

FIG. 226 Feature Selection

4. Finish the default install.

Setup

1. Go to *Start > Microsoft SQL Server 2005 > SQL Server Configuration Manager.*
2. Go to *SQL Server 2005 Network Configuration > Protocols for SQLExpress.*

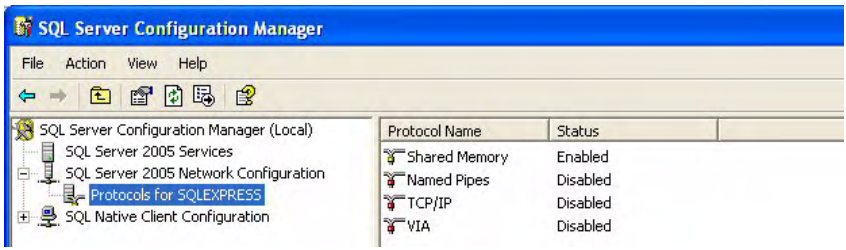


FIG. 227 SQL Server 2005 Network Configuration

3. Right-click *TCP/IP*; select *Enable*.

4. Go to *SQL Native Client Configuration* > *Client Protocols*. Ensure *TCP/IP* is enabled. If it is not, right-click *TCP/IP*; select *Enable*.

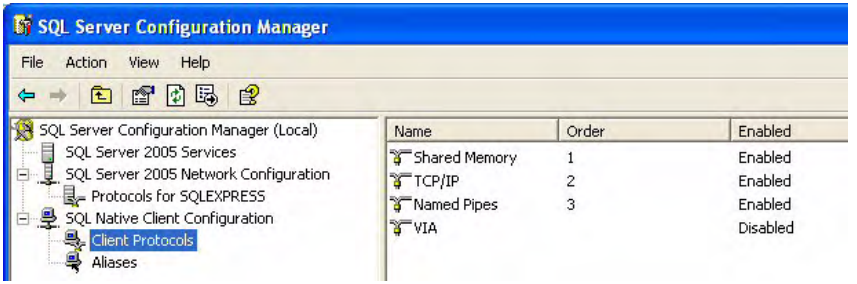


FIG. 228 SQL Native Client Configuration

5. Go to *SQL 2005 Services*.

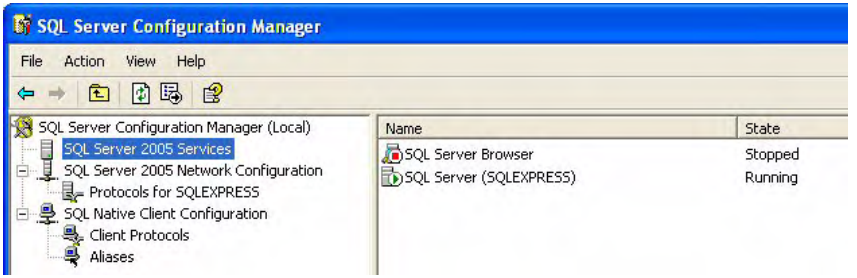


FIG. 229 SQL 2005 Services

6. Right-click *(SQLEXPRESS)*; select *Restart*. After the database has restarted, you may exit the SQL 2005 Configuration Manager.

It's Your World - Take Control™

9/07 ©2007 AMX. All rights reserved. AMX and the AMX logo are registered trademarks of AMX.
AMX reserves the right to alter specifications without notice at any time.

93-3002-06 REV: D

3000 Research Drive, Richardson, TX 75082 USA • 800.222.0193 • 469.624.8000 • 469-624-7153 fax • 800.932.6993 technical support •
www.amx.com